

by Industry and Occupation

Projections of Employment 1983~1993

San Francisco-Oakland

Metropolitan Area

**(Alameda, Contra Costa, Marin,
San Francisco and San Mateo Counties)**

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PROJECTIONS OF EMPLOYMENT by Industry and Occupation 1983 - 1993

**San Francisco - Oakland
Metropolitan Area**

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Employment Development Department
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October 1986**

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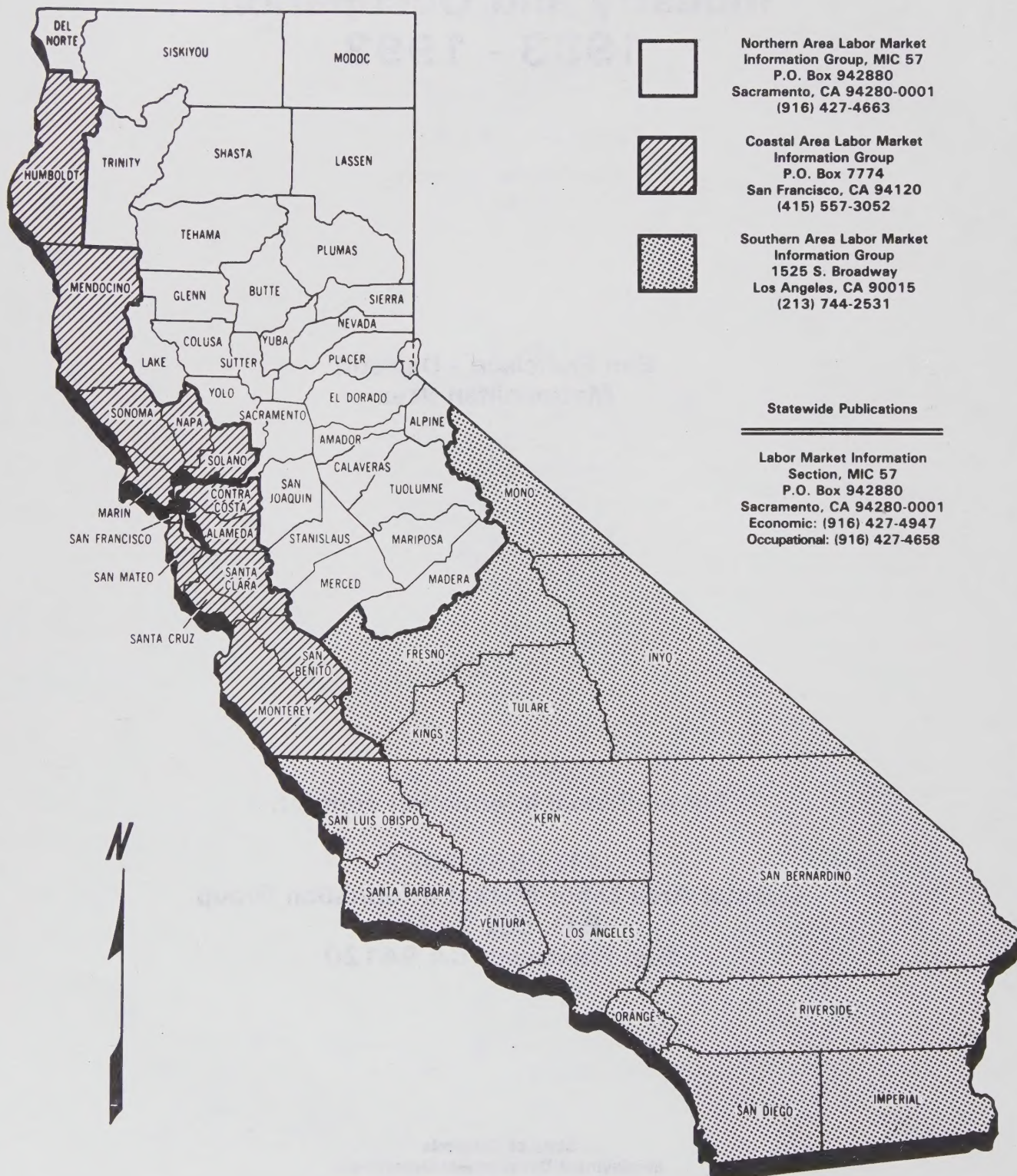
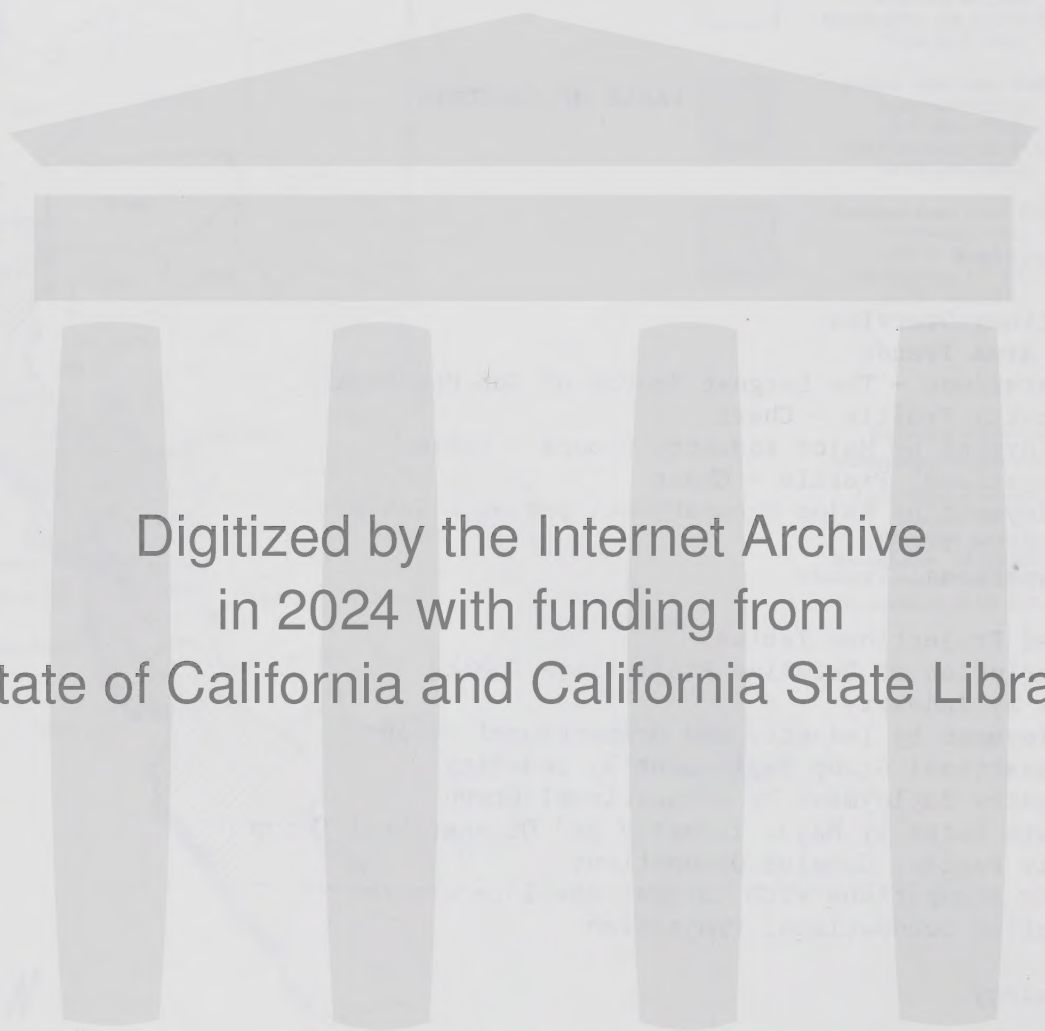


TABLE OF CONTENTS

	Page
Introduction	3
Projections Overview	5
Bay Area Trends	5
Separations - The Largest Source of Job Openings	6
Industry Profile - Chart	7
Employment by Major Industry Groups - Table	7
Occupational Profile - Chart	8
Employment by Major Occupational Groups - Table	8
Industry Trends	9
Occupational Trends	15
Detailed Projections Tables	23
Description of Detailed Projections Tables	23
Jobs by Industry	25
Employment by Industry and Occupational Group	27
Occupational Group Employment by Industry	28
Industry Employment by Occupational Group	29
Growth Rates by Major Industry and Occupational Group	30
Fifty Fastest Growing Occupations	31
Fifty Occupations with Largest Absolute Growth	32
Detailed Occupational Projection	33
Methodology	43
Index	47



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INTRODUCTION

This report contains both industry and occupational projections for the period 1983-1993. All data are annual averages and include nonagricultural wage and salary employment only. The geographical area covered is the five-county Bay Area composed of Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties. Data are not available for individual counties or cities. The 1983-1993 time period was selected because, at the time this report was prepared, 1983 was the last year for which fully-benchmarked Current Employment Statistics (CES) data were available. For a more detailed discussion of the methodology used to make these projections, see the last section of this report.

HOW TO USE THIS REPORT

This report is divided into three main sections. The first part contains an overview of the basic industry and occupational forecasts. This section includes a general discussion of Bay Area trends, and a more detailed discussion of trends for major industry and occupational groups. Users interested in broad trends in the Bay Area economy should turn directly to this section.

The second part contains all of the detailed tables. These include the industry forecast, industry/occupational matrices which show the relationship between industry trends and occupational growth, and the occupational forecast. Users interested in the outlook for specific industries or occupations should turn directly to this section.

The third part includes a discussion of the methodology used to make these projections. Users interested in this subject, as well as some of the practical limitations of these types of data, should turn to this section. Following the methodology section is the alphabetical index of occupations. Note that the occupations are listed by a unique line number consistent throughout our projections reports in California and allow comparison among different parts of the State.

COMPARABILITY OF DATA

This projections report is not comparable with our previous 1980-85 report because it uses an entirely different methodology and occupational classification system. Among the major differences are that this report projects wage and salary employment (which is a worksite-based count of jobs) rather than residential-based employment and does not include self-employment or agricultural employment. Again, for a more detailed discussion of these differences, see the methodology section.

PROJECTIONS OVERVIEW

BAY AREA TRENDS

We predict strong job growth for the five-county Bay Area during the period 1983-1993. The total number of jobs will increase by 21.2 percent, which is slightly faster than the previous ten-year period when jobs grew by 20.4 percent. This strong job growth is a function of the Bay Area's traditionally favorable economic position, elements of which include the area's role as a major financial and trading center for the Pacific Basin, and as a center for higher education and research. Other important factors include high personal income levels and the Bay Area's integral relationship with the total California economy, which usually out-performs the national economy.

Comparatively, 1983-1993 job growth for the five-county Bay Area is about on a par with the consensus of forecasts for the nation over this time period, but is considerably slower than many forecasts for California. It must be remembered, however, that the five-county Bay Area excludes some of the faster growing counties such as Santa Clara and Sonoma. If these counties were included, total Bay Area job growth would be closer to the State average.

Five-county Bay Area job growth will be driven primarily by expansion of the services and retail trade industry divisions. Of the 331,900 new jobs, 199,100 or nearly 60 percent will be in these two industry groups. As a result, the local labor market will become even more dominated by services and trade than is presently the case. In fact, during the forecast period, services and retail trade industries will increase their share of all jobs by over 3 percent. Note that in 1983, service producing industries (all industries except the goods producing industries: mining, construction, and manufacturing) accounted for 84 percent of all jobs in the five-county Bay Area, but just 74 percent nationally.

Looking at the occupational side of our forecast, several points stand out. Clearly, fast job growth will not be spread uniformly among all types of occupations. Rather, it will be concentrated in both very low-skilled and very high-skilled occupations. Comparatively low-skilled service workers, led by restaurant and fast food jobs, will be the fastest growing occupational group. Sales workers will be the second fastest growing group because of the strong growth forecast for retail trade. Highly skilled professional and technical workers will also experience faster than average growth. In fact, in each industry group, professional and technical workers will exceed the overall growth rate for that group. This is a result of powerful structural changes occurring in the economy including the increasing complexity of economic activity across all industries, and the general shift of employment from blue collar to white collar jobs.

We predict continuation of the relative decline of blue collar employment in the Bay Area. However, the outlook is not totally bleak for blue collar jobs. Highly skilled mechanics and repairers will experience fast growth, and few absolute declines will occur in blue collar categories. It is important to note that the construction industry will become an increasingly important source of blue collar jobs. While construction will account for about 5 percent of all new jobs, the industry will account for about 20 percent of all new crafts and repair, and operatives jobs.

We also predict a major change in trend for clerical workers. Clerical workers are forecast to shift from above average to below average growth primarily because of the impact of office automation.

SEPARATIONS - THE LARGEST SOURCE OF JOB OPENINGS

Labor force separations due to death, retirement, disability, and temporary withdrawal for personal reasons will account for considerably more job openings than growth. This is illustrated in the following table.

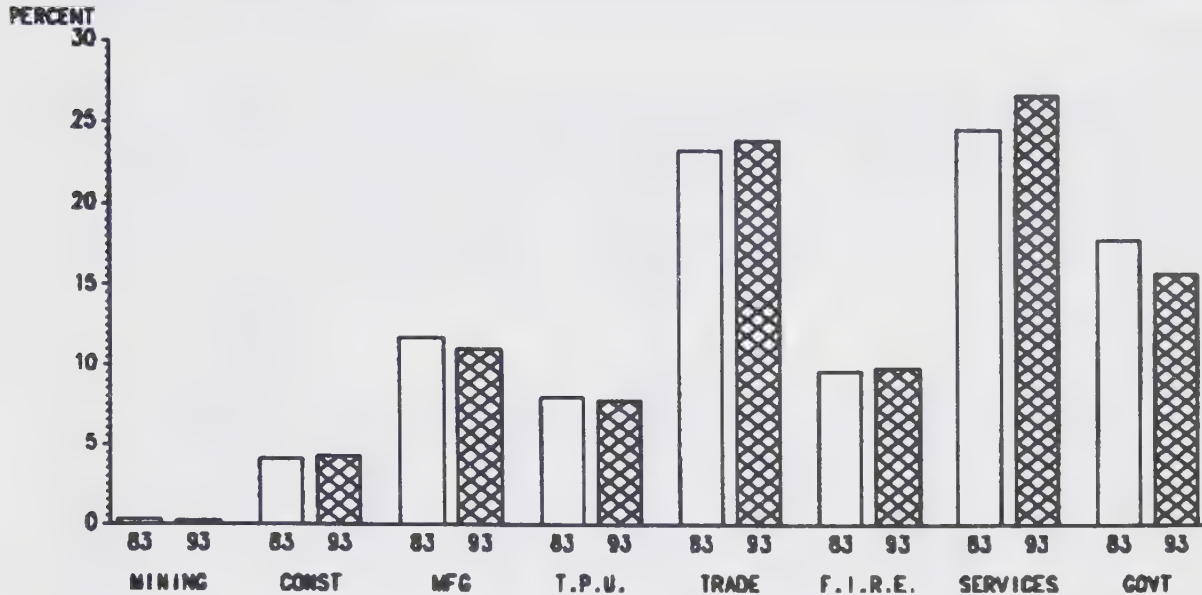
Comparison of New Jobs And Labor Force Separation--1983-1993
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Major Occupational Group	Number of New Jobs	Number of Job Openings Due to Labor Force Separation
Total, All Occupations	331,900	521,550
Professional & Technical Workers	77,000	89,770
Managers & Officials	30,320	55,660
Sales Workers	29,580	51,950
Clerical Workers	76,370	143,890
Crafts & Repair Workers	27,960	38,870
Operatives	21,960	35,280
Service Workers	62,240	94,910
Laborers & Unskilled Workers	6,470	11,220

Note that the number of openings due to separation is particularly high for clerical workers. This is caused by the large number of temporary separations characteristic of these occupations. At the aggregate level, growth plus separations yields a reasonable picture of net demand for labor. However, at the individual occupation level, separations data undercount the number of job openings because they do not include movement between occupations. For a more detailed discussion of this topic, please refer to the methodology section. Openings due to separations are included in this report for each occupation in the detailed occupational forecast table.

INDUSTRY PROFILE

San Francisco–Oakland Metropolitan Area 1983–1993

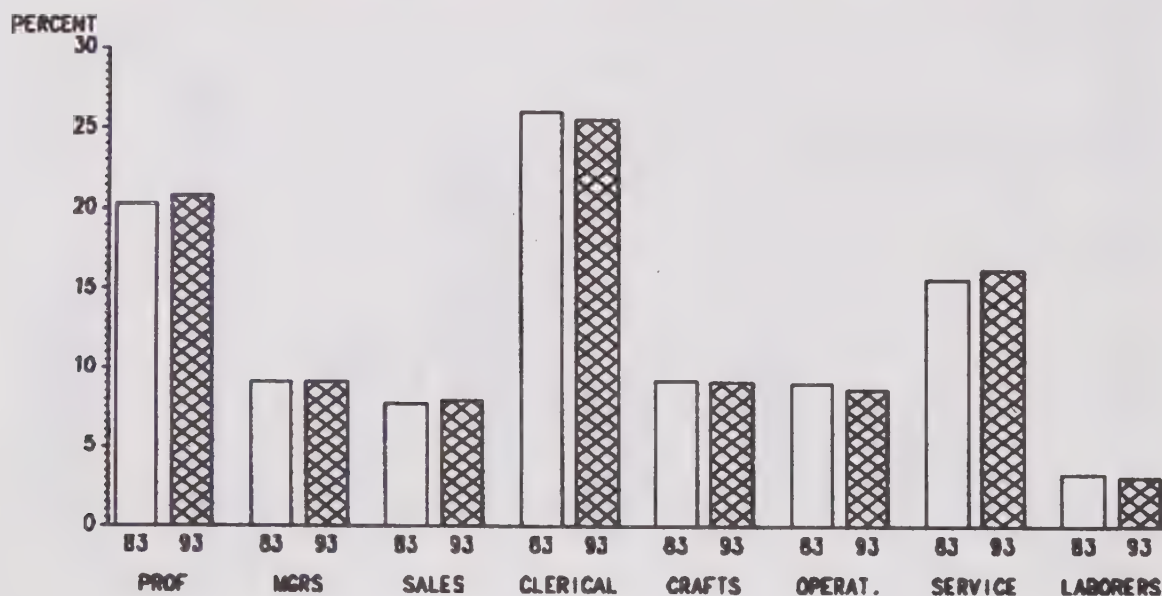


EMPLOYMENT BY MAJOR INDUSTRY GROUPS SAN FRANCISCO–OAKLAND METROPOLITAN AREA 1983–1993

	1983		1993		Percent Change 83 - 93	Openings Due To Growth
	Employment	Percent	Employment	Percent		
Total	1565700	100.0	1897600	100.0	21.2	331900
Mining	4600	.3	4000	.2	-13.0	-600
Construction	63500	4.1	81000	4.3	27.6	17500
Manufacturing	185200	11.8	210300	11.1	13.6	25100
Trans., Commun., Util.	125700	8.0	147200	7.8	17.1	21500
Trade	365000	23.4	456000	24.0	24.9	91000
Fin., Ins., Real Est.	152100	9.7	188500	9.9	23.9	36400
Services	387100	24.7	509100	26.8	31.5	122000
Government	282500	18.0	301500	15.9	6.7	19000

OCCUPATIONAL PROFILE

San Francisco-Oakland Metropolitan Area 1983-1993



EMPLOYMENT BY MAJOR OCCUPATIONAL GROUPS SAN FRANCISCO-OAKLAND METROPOLITAN AREA 1983-1993

	1983		1993		% CHANGE 83 TO 93	OPENINGS DUE TO GROWTH
	EMPLOYMENT	%	EMPLOYMENT	%		
Total	1565700	100.0	1897600	100.0	21.2	331900
Professional, Technical & Kindred	317270	20.3	394270	20.8	24.3	77000
Managers & Officials	142300	9.1	172620	9.1	21.3	30320
Sales Workers	119710	7.6	149290	7.9	24.7	29580
Clerical Workers	405210	25.9	481580	25.4	18.8	76370
Crafts & Kindred Workers	144640	9.2	172600	9.1	19.3	27960
Operatives	141570	9.0	163530	8.6	15.5	21960
Service Workers	242750	15.5	304990	16.1	25.6	62240
Laborers, Except Farm	52250	3.3	58720	3.1	12.4	6470

INDUSTRY TRENDS

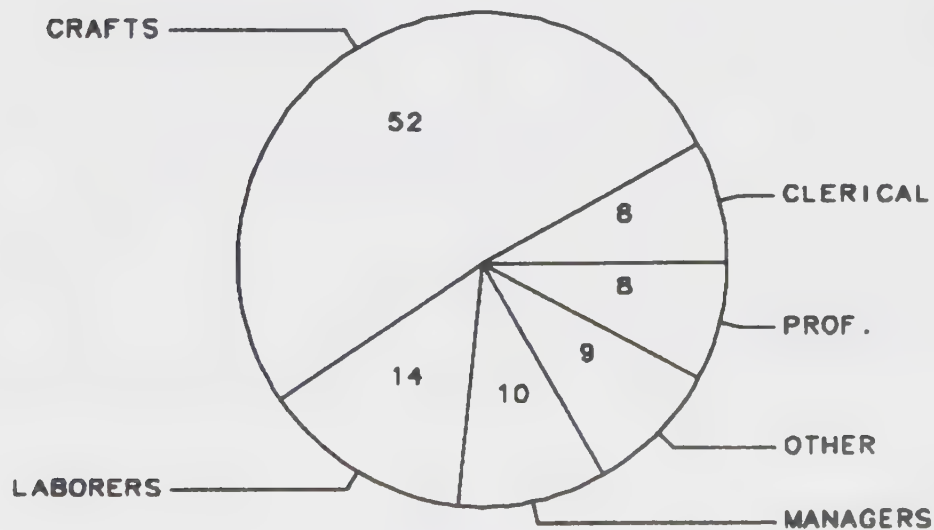
The detailed industry forecast is contained in the tables section in the middle of this report. Following is an industry-by-industry overview of this forecast.

MINING - Mining is the only industry division projected to decline during the forecast period. Mining is a very small industry in the five-county area, and is composed mostly of the headquarters offices of various oil and gas exploration companies. Because of this, most of the occupations in this industry are in the professional and technical, and clerical groups. The forecast decline is the result of a major energy company closing its San Francisco office and reflects the volatility of the oil industry.

CONSTRUCTION - The outlook is very favorable for the construction industry. We expect high levels of housing and public works construction to continue during the forecast period. Also, commercial construction is expected to rebound from its recent slowdown caused by overbuilding and high vacancy rates. Significant job growth will occur in most construction subcategories, but will be most pronounced among special trade contractors, which are characterized by many small firms. Many special trade contractors are strongly affected by the housing market, which accounts for their particularly favorable outlook. Bear in mind that this forecast does not take into account any changes which new federal tax laws may have on the construction industry.

PROJECTED 1993 OCCUPATIONAL DISTRIBUTION OF CONSTRUCTION INDUSTRIES

(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



MANUFACTURING - Manufacturing payrolls are predicted to grow moderately during the forecast period. However, many individual manufacturing industries will grow much faster than average, while job totals in other industries will decline sharply. First, a look at the fastest growing industries:

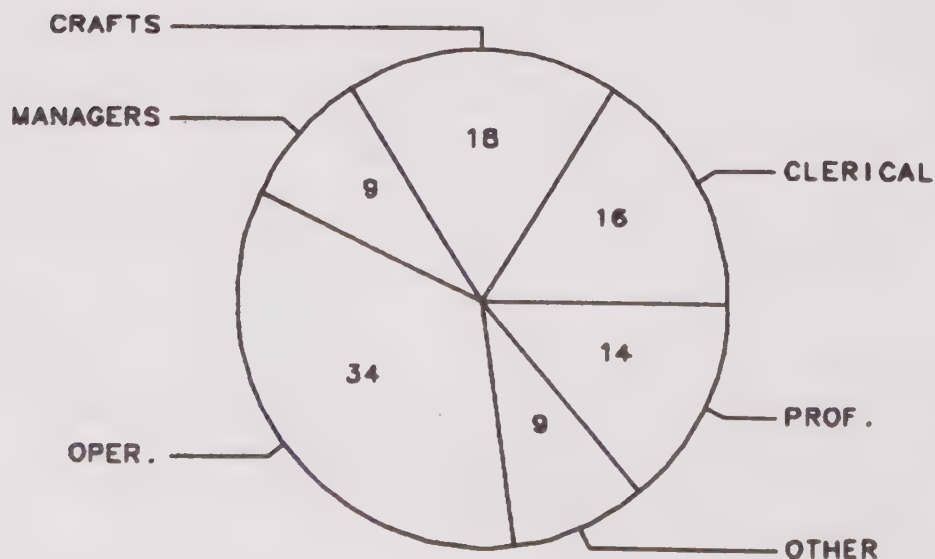
Transportation Equipment- All of the growth in this industry is a result of the GM-Toyota joint venture in Fremont (called NUMMI). In 1983, the former GM plant was closed and NUMMI had not yet started, so our base year employment figures are at depressed levels. By 1986 NUMMI was at full production, so during most of the forecast period, no net job growth is expected.

Electronics- Outside of NUMMI, nearly half of the forecast job growth in manufacturing will be in electronics or related industries. In the five-county area, most electronics jobs are found in computer manufacturing, electrical and electronic equipment, and instruments. These industries will benefit from the large number of technology-oriented business parks built in southern Alameda County in recent years. These sites will attract both new firms and relocations from nearby Silicon Valley in Santa Clara County.

Rubber and Plastics- This small industry will experience sharp job growth, paralleling national trends. This reflects both the growing importance of specialized plastics in many manufacturing processes, and the important role this industry plays as a supplier of the electronics industry.

Manufacturing job losses will be concentrated in primary and fabricated metals, and in food products. In the metals industries, competition as a result of product substitution and low-priced imports will continue to be severe. Local job totals in food products will be negatively affected by several corporate mergers.

PROJECTED 1993 OCCUPATIONAL DISTRIBUTION
OF MANUFACTURING INDUSTRIES
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



TRANSPORTATION AND PUBLIC UTILITIES - This industry division will be particularly volatile because of the dramatic changes brought by deregulation. Fastest job growth and the most volatility will occur in the communications sector, which will benefit from AT&T's decision to locate their western regional headquarters in Pleasanton following divestiture. Locally, this industry has also seen the rapid expansion and subsequent contraction of a number of long-distance telephone companies. Despite this, we expect the overall trend to be toward job growth. Communications should benefit from the increasing importance of information management in most parts of the economy.

Transportation is another sector of the economy which has been roiled by deregulation. We expect the majority of job growth to occur in the airline industry. Despite the ups and downs of individual airlines, the total demand for airline service is expected to steadily increase. Both San Francisco International and Oakland airports will continue to be important sources of jobs in the regional economy, and will remain centers of domestic and international air travel.

The fastest job growth in this industry division will occur in transportation services, which includes travel agencies and specialized freight transportation services. This sector will benefit from the rising demand for all types of services in the national economy, and from continued high levels of international trade through Bay Area ports and airports.

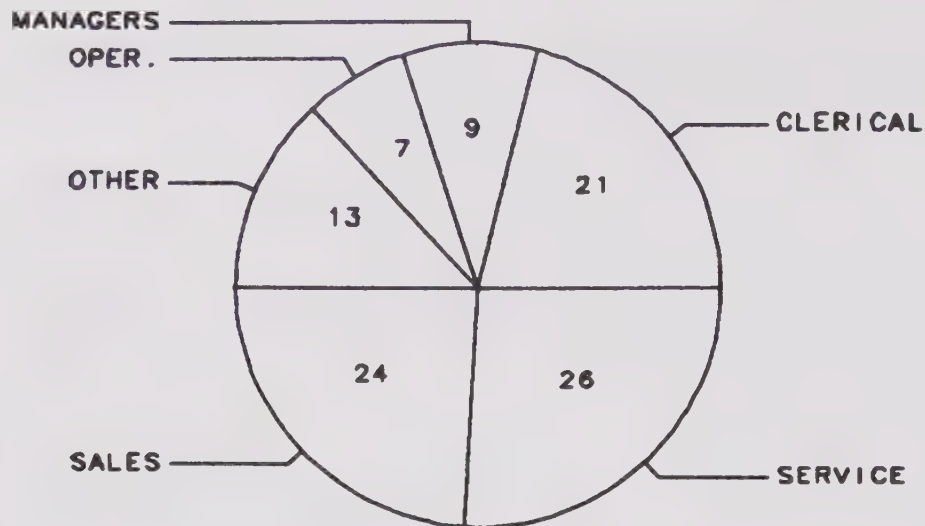
WHOLESALE TRADE - This forecast predicts that wholesale trade will grow slower than average because of stable employment patterns in some large wholesale sectors, particularly grocery wholesalers. The Bay Area will remain an attractive location for many wholesalers because of the large size of local markets and the importance of the area as a center of international trade.

RETAIL TRADE - Very strong job growth will be spread throughout most retail trade industries. The Bay Area has high income levels and consequently is one of the best markets nationally for many consumer products. This stimulates retail expansion, and, because many types of retailing are labor intensive and have relatively unchanging productivity rates, retail expansion tends to be translated directly into job growth.

Particularly strong job growth will occur in restaurants, which is a continuation of past trends. The continuing increase in the number of two-earner households is a major cause of this growth. Restaurant job growth is expected to be especially strong in some of the Bay Area's outlying suburban cities. Very strong job growth will also occur in the furniture store category, which includes record, television, and video stores.

**PROJECTED 1993 OCCUPATIONAL DISTRIBUTION
OF TRADE INDUSTRIES**

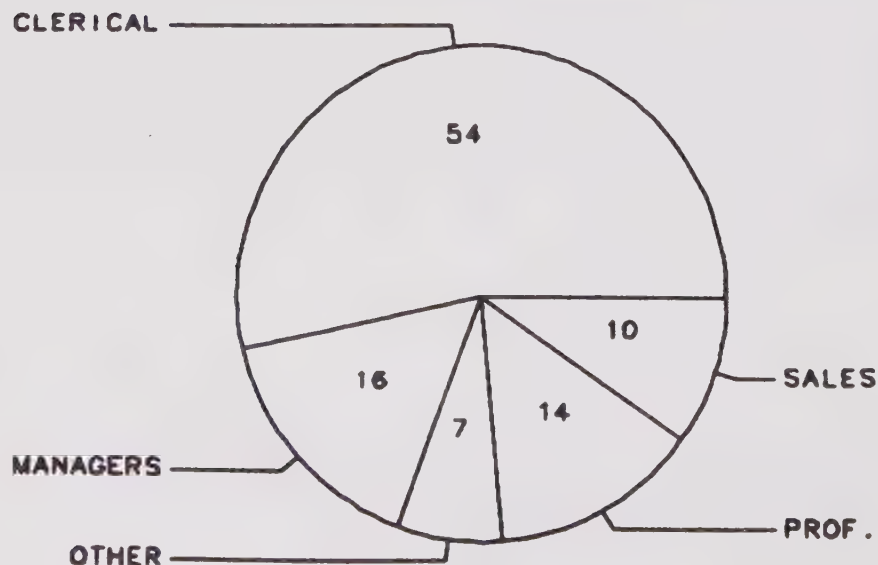
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



FINANCE, INSURANCE, AND REAL ESTATE - Job growth in this industry division, although still above average, will be dramatically slower than during the previous ten years. This is because of the relatively slow growth forecast for banks, savings and loans, and insurance. Bank job growth will be slowed by the competitive climate brought about by deregulation, several major bank mergers, and the increased use of labor saving technology. Much faster job growth will occur in security brokers because of an increasing volume of stock transactions. Much faster job growth will also occur in the real estate sector because of the favorable Bay Area housing market.

**PROJECTED 1993 OCCUPATIONAL DISTRIBUTION
FIN., INS. & R.E. INDUSTRIES**

(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



SERVICES - Services industries will be the fastest growing industry division and will also provide the largest number of new jobs during the forecast period. Because of their diversity, it is useful to combine services industries into several groupings of related industries:

Hotels and Motels- This industry will grow by nearly 7,000 new jobs. Several factors will contribute to this growth, including a favorable outlook for tourism and conventioning in the Bay Area, and the construction of many new hotels in suburban locations and around the area's major airports. In particular, many moderate-sized hotels will be constructed along the Highway 580 corridor in Alameda and Contra Costa counties, and in the cities surrounding San Francisco Airport in San Mateo County.

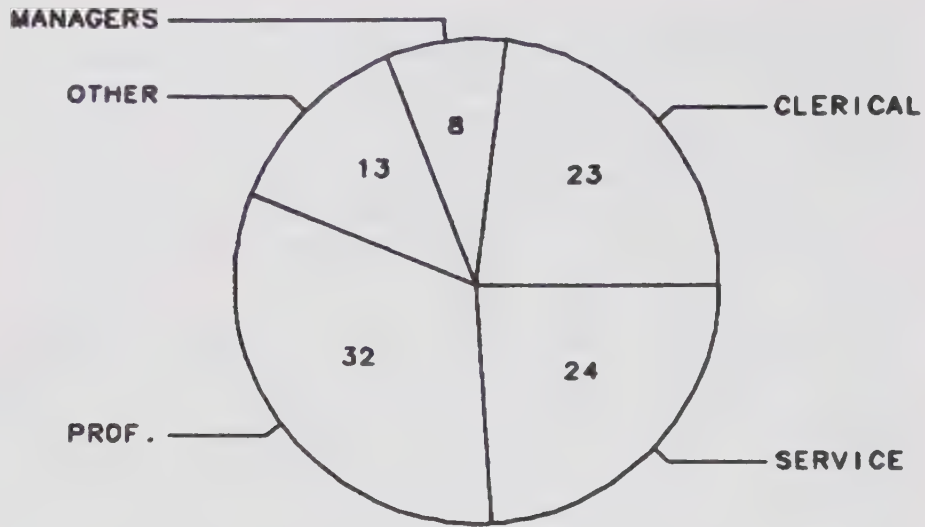
Business Services- Both nationally and locally the extremely rapid job growth in business services is one of the most important labor market developments in recent years. Growth has resulted from four on-going labor market trends, all of which we predict will continue during the next ten years. First, a lot of business services job growth will result from continuing rapid expansion by personnel supply agencies. For several complex legal and tax reasons, many firms will continue to find it attractive to do entry-level hiring through these agencies. Second, similar to the situation in retail trade, business services includes some activities with characteristically flat productivity where increased demand will be translated directly into job growth. A good example is janitorial services, where expansion of commercial space will lead directly to many new jobs. Third, business services includes some professional services, such as computer and management consulting, which will continue to experience sharply rising demand due to structural changes in the overall economy. Fourth, business services also includes a small but rapidly growing sector composed of research and technology oriented companies. Firms specializing in computer software development and biotechnology will continue to be particularly fast growing.

Medical Services- Growth in medical services is forecast to slow substantially during the forecast period. This is a result of both increased cost pressures in the industry and relatively slower expansion of medical insurance benefits. However, clinics and health maintenance organizations will grow quite rapidly, reflecting the expected emphasis on these types of medical service providers. Hospitals will have only sluggish growth because of severe cost pressures.

Professional Services- Many services industries such as law firms, engineering firms, and private education are included in this category. Most professional services will grow rapidly. The increasing complexity of business generates rising demand for specialized professional services. Also, many large companies will continue to find it economic to contract for many services they may have previously performed internally.

**PROJECTED 1993 OCCUPATIONAL DISTRIBUTION
OF SERVICES INDUSTRIES**

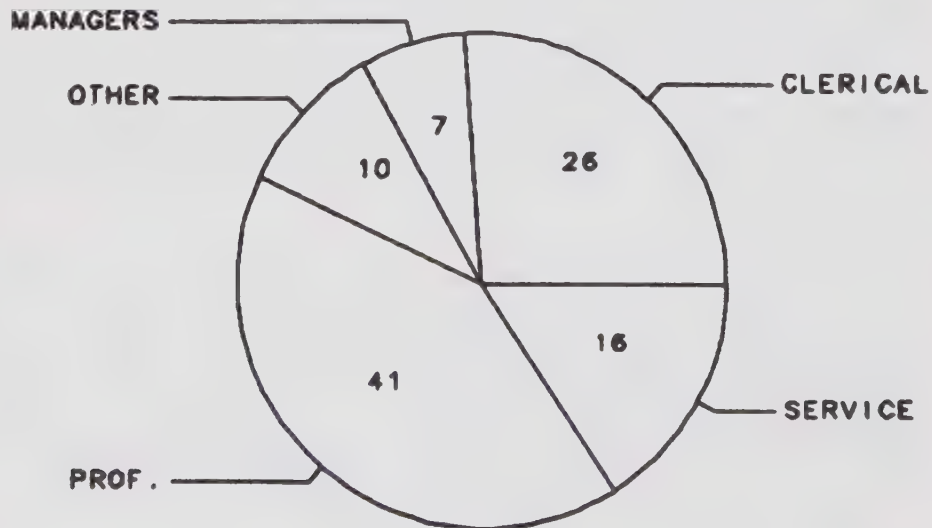
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



GOVERNMENT - Job growth in the Bay Area's large and important government sector is forecast to grow very slowly during 1983-1993. However, growth is expected to be substantially higher than during the previous ten-year period. This primarily reflects reversal of the declining trend of local education in the late 1970s and early 1980s. Job growth in local education will resume because of rising enrollments resulting from the so-called "mini-baby boom."

**PROJECTED 1993 OCCUPATIONAL DISTRIBUTION
OF GOVERNMENT INDUSTRIES**

(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



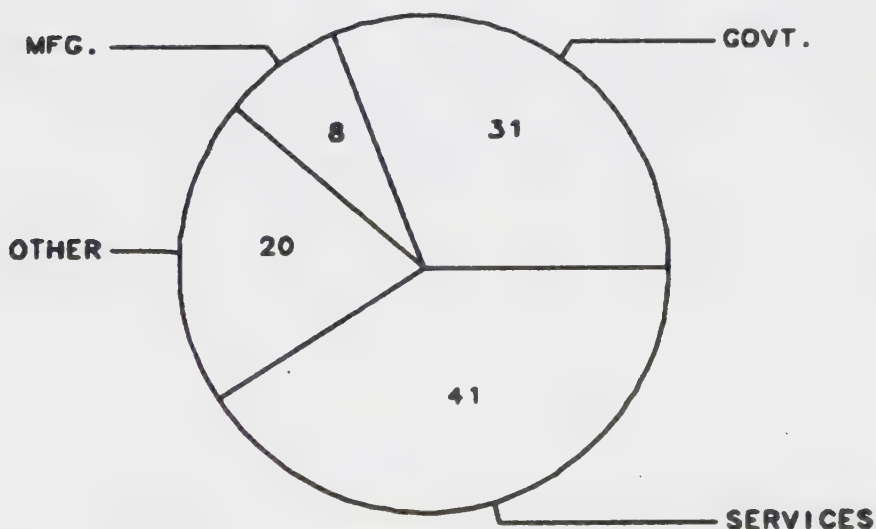
OCCUPATIONAL TRENDS

The detailed occupational forecast is contained in the tables section in the middle of this report. Following is a brief analysis of this forecast by major occupational groups.

PROFESSIONAL AND TECHNICAL WORKERS - The number of professional and technical workers will grow substantially above the average for all occupations during the next ten years. Growth will be especially strong for most types of engineers, for accounting occupations, and for the broad category of writers, artists, and entertainers. This growth parallels national trends and is indicative of the general shift from blue collar to white collar jobs in the economy. The fastest growing professional and technical occupation will be systems analyst, reflecting the increased use of computers in all business activity. Some professional and technical occupations will have relatively slow growth, however. Most categories of teachers will grow slowly because of demographic changes associated with the baby boom. Elementary teachers will be an exception to this trend because of increasing enrollments in these grades caused by the mini-baby boom.

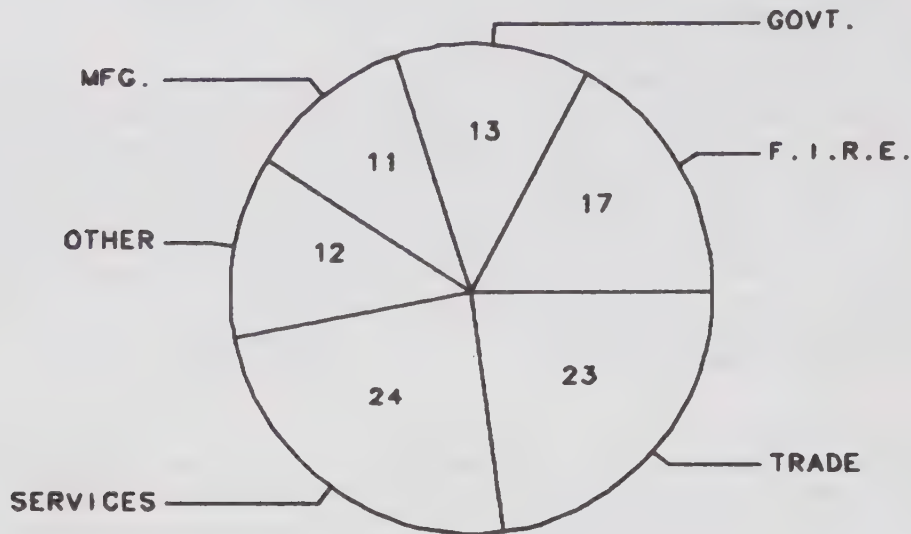
It is particularly important when using data from this report on professional occupations to remember that the employment levels include only wage and salary or payroll employment and do not include self-employed workers. Self-employment makes up a large proportion of all jobs in many professional occupations such as physicians or dentists. Consequently, our figures for these types of occupations will be very different from other sources of data which include self-employed individuals.

**PROJECTED 1993 INDUSTRY DISTRIBUTION
OF PROFESSIONAL OCCUPATIONS
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA**



MANAGERS AND OFFICIALS - The number of managers and officials is projected to grow at a rate very close to the average for all occupations. There will be a large increase in jobs for retail store and restaurant managers because of the substantial growth forecast for retail trade.

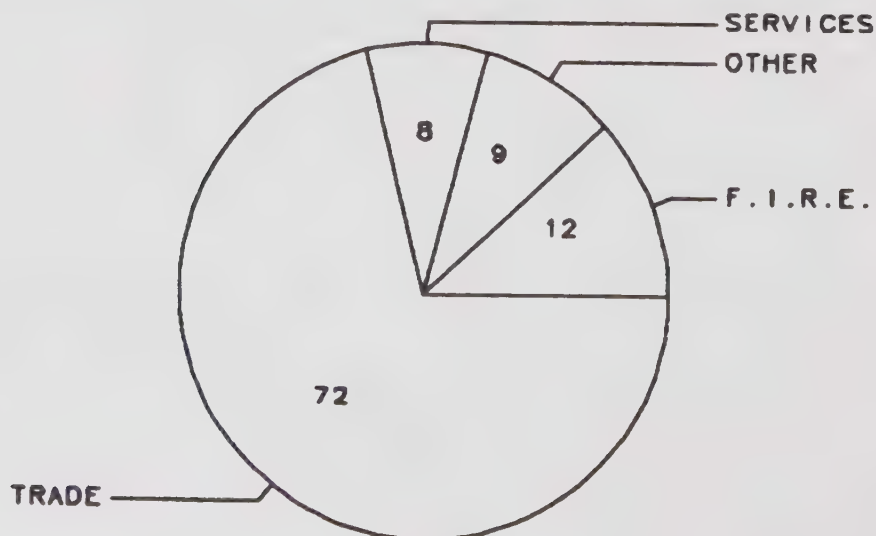
**PROJECTED 1993 INDUSTRY DISTRIBUTION
OF MANAGERIAL OCCUPATIONS**
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



SALES WORKERS - Sales workers will be the second fastest growing major occupational group, again reflecting the fast growth forecast for retail trade as well as for securities and commodities brokers, which include a number of specialized sales occupations. Sales clerk is one of the largest occupations in the five-county labor market and will grow by 12,430 new jobs during the next ten years. Also, sales clerks will have an additional 20,860 openings due to separations during this time.

Note that cashier, which is considered a sales occupation in many occupational classification systems, is listed as a clerical occupation in this report.

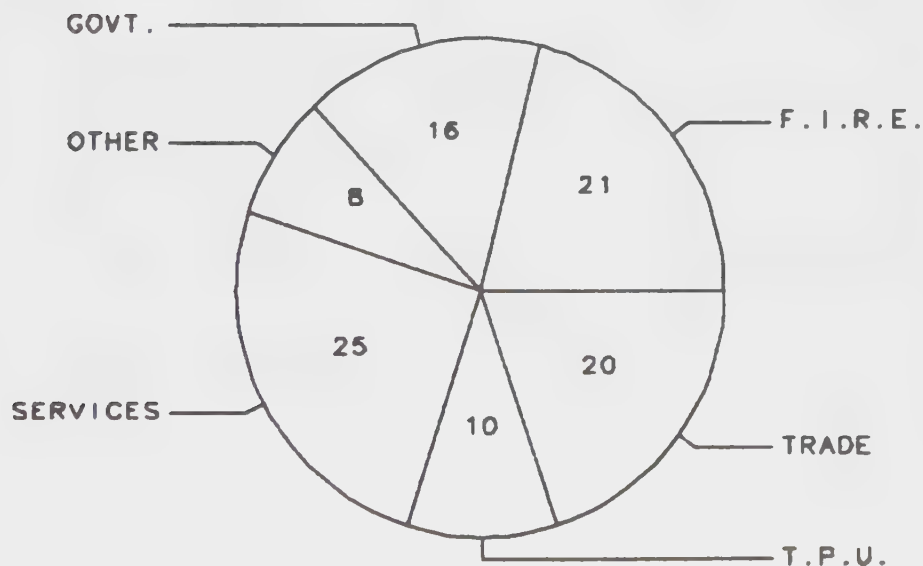
**PROJECTED 1993 INDUSTRY DISTRIBUTION
OF SALES OCCUPATIONS**
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



CLERICAL WORKERS - Clerical workers are the largest major occupational group in the five-county area. One out of every four jobs in the area is a clerical occupation. However, we predict that clerical jobs will grow slower than average and begin to decline as a percent of all occupations. This is an important change from past trends and is caused by a number of factors. Most importantly, office automation will slow the growth of clerical jobs in many business settings. This will result in slower than average growth for jobs such as order clerks, file clerks, and payroll clerks. Also, a number of traditionally fast-growing financial industry jobs, particularly in banking, will be affected by the increased use of automated personal financial services. For example, the rate of growth for tellers is significantly slower in this forecast than in most previous forecasts because of the effect of the widespread use of automated teller machines.

One of the largest clerical occupations in the five-county labor market is secretaries. This occupation will grow slightly above average and add the largest absolute number of new jobs (13,840) during the next ten years. In addition, there will be 22,240 job openings for secretaries as a result of separations. Another interesting clerical occupation is survey workers, which, although small, is predicted to be very fast growing. Survey workers are defined as people who interview the public to gather information on topics such as political issues or consumer buying habits. The fast growth of this occupation is a function of the Bay Area's importance as an administrative, marketing, and advertising center.

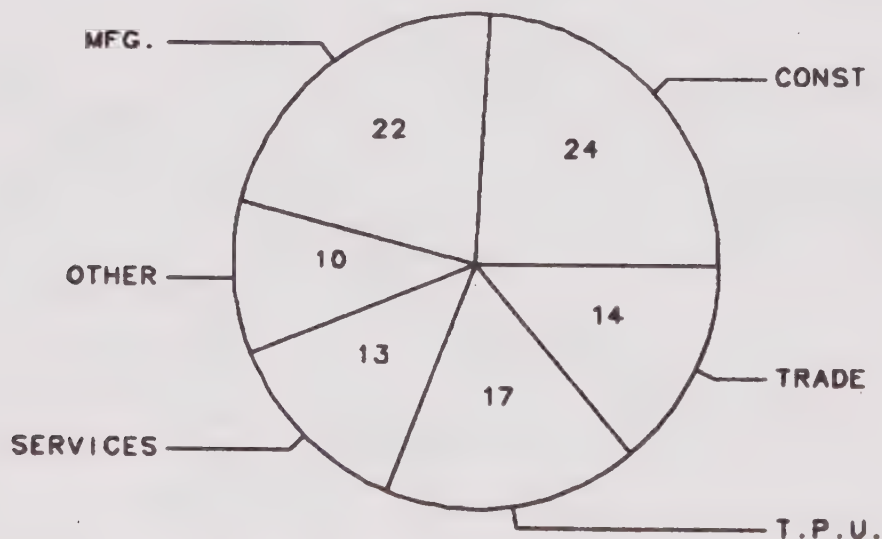
PROJECTED 1993 INDUSTRY DISTRIBUTION
OF CLERICAL OCCUPATIONS
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



CRAFTS AND REPAIR WORKERS - These occupations are concentrated in construction, manufacturing, and transportation and public utilities. Most occupations in this group are forecast to grow at or below the average for all occupations, but an exception is the mechanics, installers, and repairers category. Many repair occupations are expected to grow quite fast, led by computer repairers, which is the single fastest growing occupation in this forecast. Other fast-growing repair occupations include office machine servicers, refrigeration/air conditioning mechanics, and electronics mechanics. The large occupation of auto mechanics will also grow at an above average rate. Fast growth of repair occupations is caused by several factors including the increased use of computers and office equipment such as copiers, and the increased complexity of many products and industrial processes.

It should be noted that the length of time necessary to train crafts workers is sometimes comparable to the training period for professional and technical occupations, and is frequently longer than that needed in other occupational groups. The employment outlook will be brightest for qualified journey-level workers.

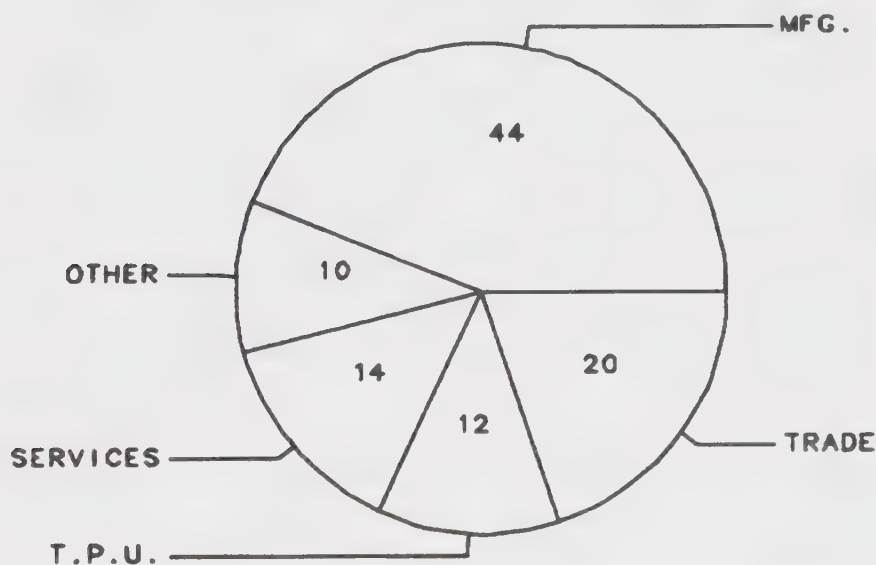
PROJECTED 1993 INDUSTRY DISTRIBUTION
OF CRAFTS OCCUPATIONS
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



OPERATIVES - Operatives include jobs involved with the operation of machinery or equipment, including vehicles. This is forecast to be a slow-growing occupational group. Even in manufacturing, where operatives are concentrated, they will decline as a percent of all jobs during the next ten years. Operatives are particularly subject to displacement by automation, and are also found in large numbers in some industries, such as primary and fabricated metals, which are expected to decline. It is important to note that a large amount of the growth in several operatives occupations, especially production-line assemblers, is a result of the GM/Toyota automobile plant (called NUMMI). Because this plant is already in operation, a lot of the forecast growth for operatives has already occurred. Without NUMMI, operatives would have even slower growth.

Some operatives occupations are exceptions to the overall pattern of slow growth. These include pest control occupations, such as exterminators and termite treaters, who will benefit from the favorable outlook for housing resales. Also, some small electromechanical assembly occupations are expected to grow fast because of the good outlook for the electronics industry.

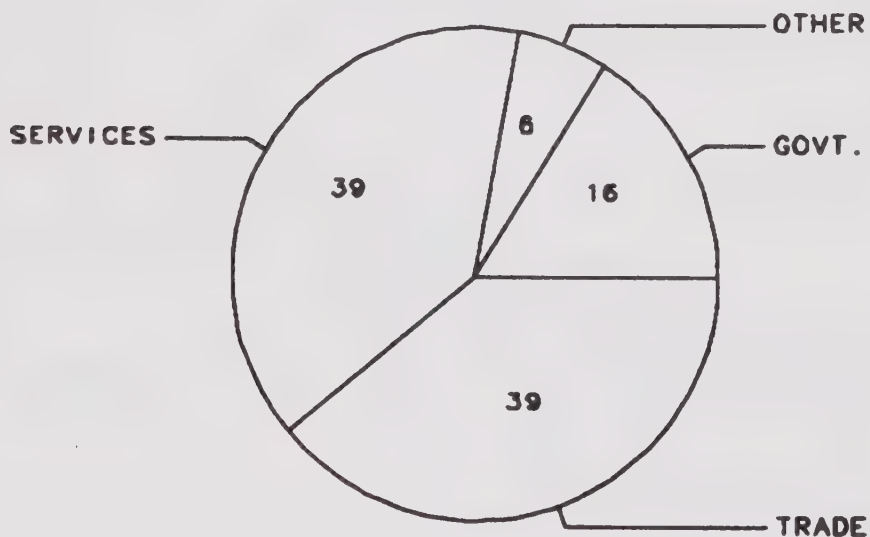
PROJECTED 1993 INDUSTRY DISTRIBUTION
OF OPERATIVE OCCUPATIONS
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA



SERVICE WORKERS - This large occupational group is characterized by relatively low-skilled jobs, many of which are quite large in size in the Bay Area labor market. For example, four of the ten occupations with the largest absolute growth are service worker occupations. Overall, this is the fastest growing occupational group, with over 60,000 new jobs projected to be added during the forecast period. Nearly half of this growth will occur among food service workers, reflecting the rapid growth expected in restaurants and specialty food stores, such as retail bakeries. Another rapidly growing type of service workers will be protective service occupations, led by very strong growth for security guards. Note that not all service workers are low-skilled. Some occupations, such as chefs, require extensive training.

In order to have a clear view of the five-county labor market, it is very important to understand the distinction between service workers and services industries. While service workers are typically low-skilled occupations, services industries employ all types of occupations, and, in fact, have a relatively high concentration of professional and technical workers, especially in education and other professional services. Service workers are, of course, also found in services industries, particularly in janitorial, security, and medical services.

**PROJECTED 1993 INDUSTRY DISTRIBUTION
OF SERVICE OCCUPATIONS
(percent)
SAN FRANCISCO-OAKLAND METROPOLITAN AREA**

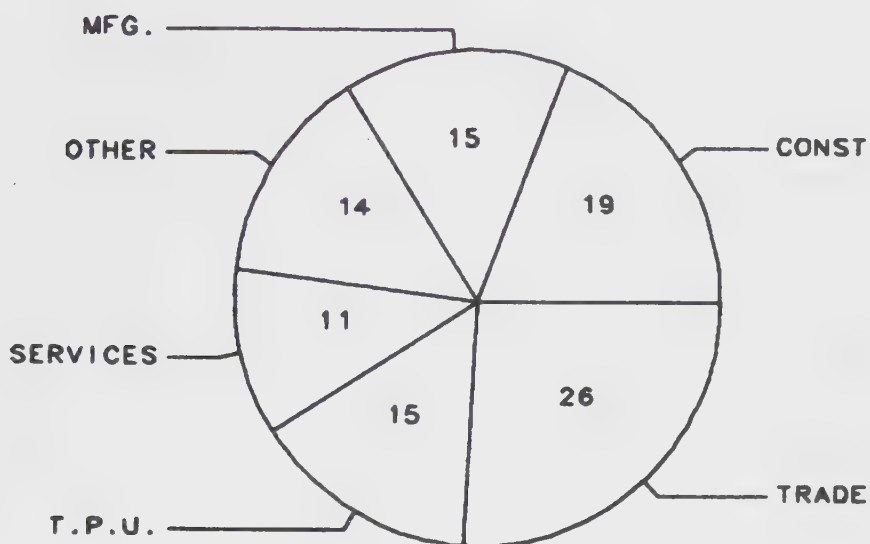


LABORERS AND UNSKILLED WORKERS - The outlook is not very favorable for this class of occupations. In manufacturing, which has the largest concentration of laborers, they are forecast to decline in absolute terms. Construction and trade industries will become increasingly important sources of new jobs in this group. During the forecast period, these two industries will account for more than half of all new jobs for laborers.

PROJECTED 1993 INDUSTRY DISTRIBUTION
OF LABORER OCCUPATIONS

(percent)

SAN FRANCISCO-OAKLAND METROPOLITAN AREA



DETAILED PROJECTIONS TABLES

DESCRIPTION OF DETAILED PROJECTIONS TABLES

Jobs by Industry, 1983-1993

Page 25

This table shows estimated annual average industry employment for 1983 and 1993 for most two-digit industries. Absolute change refers to the total number of new jobs expected to occur in each industry over the ten-year forecast period. The increase from 1983 to 1993 is also shown in terms of the percent change from the base year to 1993.

Major Industry Group/Major Occupational Group I/O Matrix

Page 27-30

These four tables present different versions of the aggregate projections matrix.

The first table presents the basic industry group/occupational group matrix which is additive both horizontally and vertically.

The second table lists the horizontal percentages derived from the basic matrix. This table shows the distribution of occupations by industry for 1983 and 1993. For example, looking at this table we see that 38 percent of all service workers will be in retail trade in 1993.

The third table lists the vertical percentage derived from the basic matrix. This table shows the occupational patterns of major industry group aggregates. For example, it shows that professional and technical workers will account for 32.2 percent of all jobs in the services industries in 1993.

The fourth table lists the 1983-1993 growth rates by industry and occupation. Use this table to judge relative growth. For example, this table reflects the fact that crafts and repair workers found in trade and services industries will have faster job growth than the same type of workers in manufacturing.

Fifty Fastest Growing Occupations

Page 31

This table lists occupations with the greatest projected percentage increase. It provides a different perspective to future occupational employment changes. It is important to note that some of these occupations are increasing rapidly from relatively small employment levels and, therefore, are not found on the list of occupations that will add the most new jobs.

Fifty Occupations with Largest Absolute Growth

Page 32

This table lists the occupations that are projected to register the greatest absolute change between 1983 and 1993. In general, these occupations are numerically large. Some of these occupations have projected rates of growth that are average, but because of their employment size they will add significant numbers of new jobs over the 1983-1993 period.

This table shows estimated annual average employment for 1983 and 1993.

"Absolute change" refers to the number of new jobs expected for each occupation, while "percent change" refers to the rate of employment growth expected over the projection period. Note that each occupation is listed by a unique line number which is cross-referenced with the alphabetical index which appears at the end of this report. These line numbers are consistent throughout current projections reports published by EDD, and allow comparison of data among similar reports for different parts of the State.

Projected changes in the level of employment in each occupation between 1983 and 1993 give an estimate of the number of new jobs expected to be created during that ten-year period. Another important source of job openings will be job vacancies that result when workers withdraw from the labor force. The "separations" data represent an estimate of the number of job openings expected to occur when workers retire, die, or otherwise leave the labor force (for an extended period of time) during the projections period. The new job openings, along with the openings created by separation, represent the total number of new workers, on balance, that can be absorbed into the employed labor force. It should be noted, however, that these estimates of job openings do not consider the many additional job openings which occur when workers change jobs, become unemployed, or temporarily withdraw from the labor force.

Jobs by Industry--1983-1993
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Industry	SIC	Annual 1983	Averages 1993	Absolute Change	Percent Change
Total, All Nonagricultural Industries		1,565,700	1,897,600	331,900	21.2%
Mining	10-14	4,600	4,000	-600	-13.0%
Construction		63,500	81,000	17,500	27.6%
General Contractors	15	18,200	22,700	4,500	24.7%
Heavy Construction	16	10,200	12,000	1,800	17.6%
Special Trade Contractors	17	35,100	46,300	11,200	31.9%
Manufacturing		185,200	210,300	25,100	13.6%
Nondurable Goods		100,200	111,900	11,700	11.7%
Food Products	20	26,200	24,400	-1,800	-6.9%
Apparel	23	15,600	19,500	3,900	25.0%
Paper	26	5,500	5,300	-200	-3.6%
Printing & Publishing	27	21,800	27,800	6,000	27.5%
Chemicals	28	14,100	15,100	1,000	7.1%
Petroleum	29	11,600	12,700	1,100	9.5%
Rubber & Plastic Products	30	4,500	6,400	1,900	42.2%
Other Nondurables	22,31	900	700	-200	-22.2%
Durable Goods		85,000	98,400	13,400	15.8%
Lumber	24	1,700	1,800	100	5.9%
Furniture	25	3,600	3,600	0	0.0%
Cement & Glass Products	32	5,800	5,900	100	1.7%
Primary Metals	33	10,000	8,600	-1,400	-14.0%
Fabricated Metals	34	15,500	13,400	-2,100	-13.5%
Machinery	35	14,900	16,500	1,600	10.7%
Electrical & Electronic Products	36	17,700	24,600	6,900	39.0%
Transportation Equipment	37	6,300	10,300	4,000	63.5%
Instruments	38	6,200	9,600	3,400	54.8%
Miscellaneous Manufacturing	39	3,300	4,100	800	24.2%
Transportation & Public Utilities		125,700	147,200	21,500	17.1%
Transportation		71,600	81,300	9,700	13.5%
Private Local Transportation	41	5,100	6,300	1,200	23.5%
Railroads & Trucking	40,42	26,000	27,000	1,000	3.8%
Water Transportation	44	7,000	6,500	-500	-7.1%
Air Transportation	45	23,500	27,200	3,700	15.7%
Transportation Services	46,47	10,000	14,300	4,300	43.0%
Communication	48	36,900	48,000	11,100	30.1%
Electric, Gas, & Sanitary Services	49	17,200	17,900	700	4.1%
Wholesale Trade	50,51	99,600	113,500	13,900	14.0%
Retail Trade		265,400	342,500	77,100	29.1%
Bldg Materials & Nurseries	52	7,900	10,600	2,700	34.2%
Department Stores	53	39,500	46,000	6,500	16.5%
Food Stores	54	36,100	45,500	9,400	26.0%
Auto Dealers & Gas Stations	55	24,000	30,000	6,000	25.0%
Apparel Stores	56	18,300	21,200	2,900	15.8%
Furniture Stores	57	11,400	16,000	4,600	40.4%
Restaurants & Bars	58	91,500	125,000	33,500	36.6%
Miscellaneous Stores	59	36,700	48,200	11,500	31.3%
Finance, Insurance & Real Estate		152,100	188,500	36,400	23.9%
Banking	60	54,900	65,900	11,000	20.0%
Savings & Loans	61	15,900	19,000	3,100	19.5%
Security & Commodity Brokers	62	9,900	15,000	5,100	51.5%
Insurance	63,64	41,200	48,600	7,400	18.0%
Real Estate	65	25,900	33,100	7,200	27.8%
Miscellaneous Finance	66,67	4,300	6,900	2,600	60.5%

Jobs by Industry--1983-1993
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Industry	SIC	Annual 1983	Averages 1993	Absolute Change	Percent Change
Services		387,100	509,100	122,000	31.5%
Hotels/Motels	70	21,600	28,500	6,900	31.9%
Personal Services	72	16,100	19,000	2,900	18.0%
Business Services		92,000	146,900	54,900	59.7%
Janitorial Services	734	11,300	18,200	6,900	61.1%
Personnel Supply Services	736	19,100	30,800	11,700	61.3%
Computer Services	737	9,200	14,800	5,600	60.9%
Other Business Services	73x	52,400	83,100	30,700	58.6%
Auto & Misc Repair Services	75,76	22,100	27,600	5,500	24.9%
Motion Pictures	78	5,000	5,700	700	14.0%
Amusement & Recreation	79	12,800	15,900	3,100	24.2%
Medical Services		87,900	106,200	18,300	20.8%
Doctors' & Dentists' Offices	801,2	23,200	27,900	4,700	20.3%
Nursing & Personal Care Facilities	805	13,000	14,300	1,300	10.0%
Hospitals	806	34,800	40,000	5,200	14.9%
Clinics & HMO's	808	10,000	15,000	5,000	50.0%
Other Medical Services	80x	6,900	9,000	2,100	30.4%
Legal Services	81	18,100	25,000	6,900	38.1%
Private Education/Museums/Galleries	82,84	20,900	27,000	6,100	29.2%
Social Services & Membership Orgs	83,86	45,800	50,100	4,300	9.4%
Engineering & Other Services		38,600	48,400	9,800	25.4%
Engineering & Architectural Services	891	23,800	30,000	6,200	26.1%
Accounting Services	893	9,000	11,900	2,900	32.2%
Miscellaneous Services	89x	5,800	6,500	700	12.1%
Agricultural Services	074,5,8	6,200	8,800	2,600	41.9%
Government		282,500	301,500	19,000	6.7%
Federal	A11	66,900	69,500	2,600	3.9%
State ex Education	A11	27,600	30,000	2,400	8.7%
State Education	A11	32,400	35,000	2,600	8.0%
Local Government		155,600	167,000	11,400	7.3%
County	A11	22,400	23,500	1,100	4.9%
City	A11	41,800	44,000	2,200	5.3%
Special District	A11	21,100	24,000	2,900	13.7%
Local Education	A11	70,300	75,500	5,200	7.4%

Employment by Industry and Occupational Group--1983-1993
 San Francisco-Oakland Metropolitan Area
 (Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Occupational Groups	Year	Industry Groups									
		Total, All Nonag Industries	Mining	Construction	Manufacturing	Trans & Public Util	Wholesale Trade	Retail Trade	Fin, Ins, & Real Est	Services	Government
Total, All Occupations	83 93	1,565,700 1,897,600	4,600 4,000	63,500 81,000	185,200 210,300	125,700 147,200	99,600 113,500	265,400 342,500	152,100 188,500	387,100 509,100	282,500 301,500
Professional & Technical Workers	83 93	317,270 394,270	1,660 1,540	4,980 6,390	24,640 30,370	15,720 20,890	10,380 12,190	8,000 10,360	19,830 25,610	121,640 164,100	110,420 122,820
Managers & Officials	83 93	142,300 172,620	850 700	5,950 7,720	16,320 18,630	11,200 12,770	10,330 11,720	21,280 27,990	23,550 29,200	32,160 41,960	20,660 21,930
Sales Workers	83 93	119,710 149,290	70 60	860 1,110	6,000 7,120	1,810 2,260	21,250 24,010	66,640 83,820	13,510 18,070	8,540 11,770	1,030 1,070
Clerical Workers	83 93	405,210 481,580	1,590 1,360	5,060 6,810	28,820 33,670	40,650 46,890	30,280 34,060	47,820 61,770	83,390 100,800	92,280 118,980	75,320 77,240
Crafts & Repair Workers	83 93	144,640 172,600	150 140	33,100 41,690	34,250 37,300	25,080 29,810	7,190 8,600	11,690 15,110	3,120 3,970	17,060 22,350	13,000 13,630
Operatives	83 93	141,570 163,530	230 200	4,220 5,450	63,150 71,450	17,200 19,620	11,790 13,460	17,010 19,960	240 290	17,880 22,810	9,850 10,290
Service Workers	83 93	242,750 304,990	* *	380 500	2,900 3,140	5,890 6,120	1,640 1,960	86,780 115,810	6,830 8,570	92,150 120,430	46,180 48,460
Laborers & Unskilled Workers	83 93	52,250 58,720	50 *	8,950 11,330	9,120 8,620	8,150 8,840	6,740 7,500	6,180 7,680	1,630 1,990	5,390 6,700	6,040 6,060

* Less than 50.

Occupational Group Employment by Industry--1983-1993
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Horizontal Percentages*

Occupational Groups Year		Industry Groups									
		Total, All Nonag Industries	Mining	Construc- tion	Manufac- turing	Trans & Public Util	Whole- sale Trade	Retail Trade	Fin, Ins, & Real Est	Services	Govern- ment
Total, All Occupations	83 93	100.0% 100.0%	0.3% 0.2%	4.1% 4.3%	11.8% 11.1%	8.0% 7.8%	6.4% 6.0%	17.0% 18.0%	9.7% 9.9%	24.7% 26.8%	18.0% 15.9%
Professional & Technical Workers	83 93	100.0% 100.0%	0.5% 0.4%	1.6% 1.6%	7.8% 7.7%	5.0% 5.3%	3.3% 3.1%	2.5% 2.6%	6.3% 6.5%	38.3% 41.6%	34.8% 31.2%
Managers & Officials	83 93	100.0% 100.0%	0.6% 0.4%	4.2% 4.5%	11.5% 10.8%	7.9% 7.4%	7.3% 6.8%	15.0% 16.2%	16.5% 16.9%	22.6% 24.3%	14.5% 12.7%
Sales Workers	83 93	100.0% 100.0%	0.1% 0.0%	0.7% 0.7%	5.0% 4.8%	1.5% 1.5%	17.8% 16.1%	55.7% 56.1%	11.3% 12.1%	7.1% 7.9%	0.9% 0.7%
Clerical Workers	83 93	100.0% 100.0%	0.4% 0.3%	1.2% 1.4%	7.1% 7.0%	10.0% 9.7%	7.5% 7.1%	11.8% 12.8%	20.6% 20.9%	22.8% 24.7%	18.6% 16.0%
Crafts & Repair Workers	83 93	100.0% 100.0%	0.1% 0.1%	22.9% 24.2%	23.7% 21.6%	17.3% 17.3%	5.0% 5.0%	8.1% 8.8%	2.2% 2.3%	11.8% 12.9%	9.0% 7.9%
Operatives	83 93	100.0% 100.0%	0.2% 0.1%	3.0% 3.3%	44.6% 43.7%	12.1% 12.0%	8.3% 8.2%	12.0% 12.2%	0.2% 0.2%	12.6% 13.9%	7.0% 6.3%
Service Workers	83 93	100.0% 100.0%	** **	0.2% 0.2%	1.2% 1.0%	2.4% 2.0%	0.7% 0.6%	35.7% 38.0%	2.8% 2.8%	38.0% 39.5%	19.0% 15.9%
Laborers & Unskilled Workers	83 93	100.0% 100.0%	0.1% **	17.1% 19.3%	17.5% 14.7%	15.6% 15.1%	12.9% 12.8%	11.8% 13.1%	3.1% 3.4%	10.3% 11.4%	11.6% 10.3%

* Percentages may not add to exactly 100% because of rounding.

** Less than 0.1%.

Industry Employment by Occupational Group--1983-1993
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Vertical Percentages*

Occupational Groups	Year	Industry Groups									
		Total, All Nonag Industries	Mining	Construction	Manufacturing	Trans & Public Util	Wholesale Trade	Retail Trade	Fin, Ins, & Real Est	Services	Government
Total, All Occupations	83 93	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%
Professional & Technical Workers	83 93	20.3% 20.8%	36.1% 38.5%	7.8% 7.9%	13.3% 14.4%	12.5% 14.2%	10.4% 10.7%	3.0% 3.0%	13.0% 13.6%	31.4% 32.2%	39.1% 40.7%
Managers & Officials	83 93	9.1% 9.1%	18.5% 17.5%	9.4% 9.5%	8.8% 8.9%	8.9% 8.7%	10.4% 10.3%	8.0% 8.2%	15.5% 15.5%	8.3% 8.2%	7.3% 7.3%
Sales Workers	83 93	7.6% 7.9%	1.5% 1.5%	1.4% 1.4%	3.2% 3.4%	1.4% 1.5%	21.3% 21.2%	25.1% 24.5%	8.9% 9.6%	2.2% 2.3%	0.4% 0.4%
Clerical Workers	83 93	25.9% 25.4%	34.6% 34.0%	8.0% 8.4%	15.6% 16.0%	32.3% 31.9%	30.4% 30.0%	18.0% 18.0%	54.8% 53.5%	23.8% 23.4%	26.7% 25.6%
Crafts & Repair Workers	83 93	9.2% 9.1%	3.3% 3.5%	52.1% 51.5%	18.5% 17.7%	20.0% 20.3%	7.2% 7.6%	4.4% 4.4%	2.1% 2.1%	4.4% 4.4%	4.6% 4.5%
Operatives	83 93	9.0% 8.6%	5.0% 5.0%	6.6% 6.7%	34.1% 34.0%	13.7% 13.3%	11.8% 11.9%	6.4% 5.8%	0.2% 0.2%	4.6% 4.5%	3.5% 3.4%
Service Workers	83 93	15.5% 16.1%	** **	0.6% 0.6%	1.6% 1.5%	4.7% 4.2%	1.6% 1.7%	32.7% 33.8%	4.5% 4.5%	23.8% 23.7%	16.3% 16.1%
Laborers & Unskilled Workers	83 93	3.3% 3.1%	1.1% **	14.1% 14.0%	4.9% 4.1%	6.5% 6.0%	6.8% 6.6%	2.3% 2.2%	1.1% 1.1%	1.4% 1.3%	2.1% 2.0%

* Percentages may not add to exactly 100% because of rounding.

** Less than 0.1%.

Growth Rates by Major Industry & Occupational Group--1983-1993
 San Francisco-Oakland Metropolitan Area
 (Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Occupational Groups	Year	Industry Groups									
		Total, All Nonag Industries	Mining	Construction	Manufacturing	Trans & Public Util	Wholesale Trade	Retail Trade	Fin, Ins, & Real Est	Services	Government
Total, All Occupations	83-93	21.2%	-13.0%	27.6%	13.6%	17.1%	14.0%	29.1%	23.9%	31.5%	6.7%
Professional & Technical Workers	83-93	24.3%	-7.2%	28.3%	23.3%	32.9%	17.4%	29.5%	29.1%	34.9%	11.2%
Managers & Officials	83-93	21.3%	-17.6%	29.7%	14.2%	14.0%	13.5%	31.5%	24.0%	30.5%	6.1%
Sales Workers	83-93	24.7%	-14.3%	29.1%	18.7%	24.9%	13.0%	25.8%	33.8%	37.8%	3.9%
Clerical Workers	83-93	18.8%	-14.5%	34.6%	16.8%	15.4%	12.5%	29.2%	20.9%	28.9%	2.5%
Crafts & Repair Workers	83-93	19.3%	-6.7%	26.0%	8.9%	18.9%	19.6%	29.3%	27.2%	31.0%	4.8%
Operatives	83-93	15.5%	-13.0%	29.1%	13.1%	14.1%	14.2%	17.3%	20.8%	27.6%	4.5%
Service Workers	83-93	25.6%	----	31.6%	8.3%	3.9%	19.5%	33.5%	25.5%	30.7%	4.9%
Laborers & Unskilled Workers	83-93	12.4%	----	26.6%	-5.5%	8.5%	11.3%	24.3%	22.1%	24.3%	0.3%

Fifty Fastest Growing Occupations--1983-1993*
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Occupation	1983	1993	Number of New Jobs	Percent Change
COMPUTER REPAIRERS	900	1,890	990	110.0%
SYSTEMS ANALYSTS,EDP	7,850	14,100	6,250	79.6%
EMPLOYMENT INTERVIEWERS	1,490	2,420	930	62.4%
PARALEGAL PERSONNEL	1,630	2,610	980	60.1%
GUARDS & DOORKEEPERS	16,690	26,160	9,470	56.7%
OFFICE MACHINE SERVICERS	1,840	2,850	1,010	54.9%
TRAVEL AGENTS	2,970	4,580	1,610	54.2%
FAST FOOD WORKERS	11,000	16,810	5,810	52.8%
SURVEY WORKERS	1,100	1,680	580	52.7%
COMPUTER PROGRAMMERS	7,910	12,020	4,110	52.0%
WIRERS,ELECTRONIC	310	470	160	51.6%
PROTECTIVE SIGNAL INST/REPAIRERS	350	530	180	51.4%
STOCK & BOND SALES AGENTS	3,600	5,450	1,850	51.4%
BROKER'S FL REPS,SEC TRADRS,ETC	320	480	160	50.0%
EXTERMINATORS	230	340	110	47.8%
LAWYERS	7,040	10,220	3,180	45.2%
MANAGERS,REST'RANT,COFFEE SH,ETC	5,770	8,300	2,530	43.8%
PRECISION ELECTRONICS ASSEMBLERS	1,100	1,570	470	42.7%
CHEMICAL ENGINEERS	1,090	1,550	460	42.2%
ELECTRICAL & ELECTRONIC ENGINEERS	7,180	10,140	2,960	41.2%
BROKERAGE CLERKS	470	660	190	40.4%
RETAIL BAKERS	1,330	1,860	530	39.8%
HOSTS/HOSTESSES,REST,LNGE,COF SH	2,610	3,640	1,030	39.5%
BLDG INSPECTORS,FIRE INSURANCE	510	710	200	39.2%
MOLDING MACHINE OPERATORS,PLASTICS	700	960	260	37.1%
COUNTER ATTNS,LUNCHRM,COF SH,ETC	4,700	6,430	1,730	36.8%
OFFSET LITHOGRAPHIC PRESS OPS	1,270	1,730	460	36.2%
OCCUPATIONAL THERAPISTS	360	490	130	36.1%
PRECISION ELECTROMECH ASSEMBLERS	420	570	150	35.7%
TERMITE TREATERS	450	610	160	35.6%
INSULATION INSTALLERS	480	650	170	35.4%
LAW CLERKS	1,160	1,570	410	35.3%
SALES AGENTS,SALES REPS,REAL EST	4,030	5,450	1,420	35.2%
PHOTO PROCESS WORKERS	1,960	2,650	690	35.2%
PHYSICAL THERAPISTS	940	1,270	330	35.1%
COMPUTER OPERATORS	4,480	6,050	1,570	35.0%
REAL ESTATE BROKERS	460	620	160	34.8%
TEACHERS,ELEMENTARY	16,230	21,850	5,620	34.6%
PANTRY,SANDWICH,&/OR COFF MAKERS	2,200	2,960	760	34.5%
COMMERCIAL ARTISTS	1,170	1,570	400	34.2%
POLICY CHANGE CLERKS,INS	470	630	160	34.0%
REFRIG MECHANICS,A/C MECHANICS	1,390	1,860	470	33.8%
CLAIM EXAMINERS,PRPTY/CSLTY INS	950	1,270	320	33.7%
CABLE SPLICERS	2,300	3,070	770	33.5%
SPEECH & HEARING CLINICIANS,ETC	660	880	220	33.3%
CLAIM ADJUSTERS	1,740	2,310	570	32.8%
DINING RM ATTNS,BAR HELPERS,ETC	7,350	9,750	2,400	32.7%
ARCHITECTS	1,450	1,920	470	32.4%
GENERAL ELECTROMECH ASSEMBLERS	710	940	230	32.4%
COOKS, RESTAURANT	7,050	9,300	2,250	31.9%

* Excludes "All Other" categories and occupations with growth of less than 100 new jobs.

Fifty Occupations with Largest Absolute Growth--1983-1993*
San Francisco-Oakland Metropolitan Area
(Alameda, Contra Costa, Marin, San Francisco, & San Mateo Counties)

Occupation	1983	1993	Number of New Jobs	Percent Change
SECRETARIES	53,030	66,870	13,840	26.1%
SALES CLERKS	50,790	63,220	12,430	24.5%
JANITORS, PORTERS, & CLEANERS	42,960	53,660	10,700	24.9%
GUARDS & DOORKEEPERS	16,690	26,160	9,470	56.7%
CASHIERS	26,570	34,680	8,110	30.5%
GENERAL CLERKS, OFFICE	55,530	63,580	8,050	14.5%
WAITERS & WAITRESSES	27,470	34,500	7,030	25.6%
SYSTEMS ANALYSTS, EDP	7,850	14,100	6,250	79.6%
FAST FOOD WORKERS	11,000	16,810	5,810	52.8%
SALES REPS., TECHNICAL	24,810	30,440	5,630	22.7%
TEACHERS, ELEMENTARY	16,230	21,850	5,620	34.6%
ACCOUNTANTS & AUDITORS	17,790	22,910	5,120	28.8%
TYPISTS	22,100	26,250	4,150	18.8%
COMPUTER PROGRAMMERS	7,910	12,020	4,110	52.0%
KITCHEN HELPERS	12,600	16,090	3,490	27.7%
REGISTERED NURSES	16,970	20,380	3,410	20.1%
TRUCK DRIVERS	20,170	23,540	3,370	16.7%
BOOKKEEPERS	15,440	18,770	3,330	21.6%
LAWYERS	7,040	10,220	3,180	45.2%
MANAGERS, STORE	11,030	14,040	3,010	27.3%
ELECTRICAL & ELECTRONIC ENGINEERS	7,180	10,140	2,960	41.2%
DELIVERY & ROUTE WORKERS	14,600	17,320	2,720	18.6%
ACCOUNTING CLERKS	18,640	21,280	2,640	14.2%
MANAGERS, RESTAURANT, COFFEE SH, ETC	5,770	8,300	2,530	43.8%
CARPENTERS	11,390	13,830	2,440	21.4%
BLUE COLLAR WORKER SUPERVISORS	14,290	16,710	2,420	16.9%
SALES REPS., NONTECHNICAL	13,110	15,510	2,400	18.3%
DINING RM ATTNS, BAR HELPERS, ETC	7,350	9,750	2,400	32.7%
COOKS, SHORT ORDER/SPEC FAST FD	8,840	11,180	2,340	26.5%
STOCK CLERKS, STOCKRM, WAREHS, ETC	12,460	14,760	2,300	18.5%
NURSE ASSISTANTS	16,340	18,610	2,270	13.9%
COOKS, RESTAURANT	7,050	9,300	2,250	31.9%
AUTOMOTIVE MECHANICS	9,500	11,730	2,230	23.5%
ELECTRICAL & ELECTRONIC TECHNS	6,990	9,020	2,030	29.0%
CLERICAL SUPERVISORS	11,310	13,310	2,000	17.7%
RECEPTIONISTS	9,070	10,940	1,870	20.6%
STOCK & BOND SALES AGENTS	3,600	5,450	1,850	51.4%
BARTENDERS	6,820	8,570	1,750	25.7%
ELECTRICIANS	7,550	9,290	1,740	23.0%
COUNTER ATTNS, LUNCHRM, COF SH, ETC	4,700	6,430	1,730	36.8%
SEWING MACH OPS, REG EQMT, GARMENT	5,730	7,380	1,650	28.8%
TRAVEL AGENTS	2,970	4,580	1,610	54.2%
COMPUTER OPERATORS	4,480	6,050	1,570	35.0%
PHYSICIANS & SURGEONS	7,460	8,940	1,480	19.8%
TEACHERS, PRESCHOOL OR KINDERGRTN	6,150	7,630	1,480	24.1%
MECHANICAL ENGINEERS	4,680	6,150	1,470	31.4%
SALES AGENTS, SALES REPS, REAL EST	4,030	5,450	1,420	35.2%
SHIPPING & RECEIVING CLERKS	7,420	8,780	1,360	18.3%
HELPERS, TRADES	6,290	7,600	1,310	20.8%
MAINTENANCE REPAIRERS, GEN UTIL	7,530	8,820	1,290	17.1%

* Excludes "All Other" categories.

DETAILED OCCUPATIONAL PROJECTION--1983-1993
SAN FRANCISCO-OAKLAND METROPOLITAN AREA
(ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, & SAN MATEO COUNTIES)

LINE NUMBER	OCCUPATIONAL TITLE	ANNUAL AVERAGES 1983	1993	ABSOLUTE CHANGE	PERCENT CHANGE	OPENINGS DUE TO SEPARATION
1	TOTAL, ALL OCCUPATIONS	1,565,700	1,897,600	331,900	21.2%	521,550
2	PROFESSIONAL & TECHNICAL WORKERS	317,270	394,270	77,000	24.3%	89,770
3	ENGINEERS	24,540	31,170	6,630	27.0%	5,150
4	AERONAUTICAL ENGINEERS	180	240	60	33.3%	30
5	CHEMICAL ENGINEERS	1,090	1,550	460	42.2%	250
7	CIVIL ENGINEERS	4,560	5,690	1,130	24.8%	1,170
8	ELECTRICAL & ELECTRONIC ENGINEERS	7,180	10,140	2,960	41.2%	1,130
9	INDUSTRIAL ENGINEERS	660	780	120	18.2%	140
11	MECHANICAL ENGINEERS	4,680	6,150	1,470	31.4%	1,170
13	METALLURGISTS & MET ENGINEERS	100	110	10	10.0%	20
14	MINING ENGINEERS	60	50	-10	-16.7%	20
15	PETROLEUM ENGINEERS	180	200	20	11.1%	40
18	TRAFFIC ENGINEERS	700	730	30	4.3%	140
19	NUCLEAR ENGINEERS	130	140	10	7.7%	30
21	ALL OTHER ENGINEERS	5,020	5,390	370	7.4%	1,010
22	LIFE & PHYSICAL SCIENTISTS	5,580	6,770	1,190	21.3%	1,180
23	AGRICULTURAL SCIENTISTS	140	160	20	14.3%	50
26	BIOLOGICAL SCIENTISTS	530	660	130	24.5%	130
28	CHEMISTS	2,030	2,550	520	25.6%	480
29	GEOLOGISTS & GEOPHYSICISTS	720	790	70	9.7%	200
31	PHYSICISTS	810	1,050	240	29.6%	100
33	ALL OTHER LIFE & PHYSICAL SCI	1,350	1,560	210	15.6%	220
40	MATHEMATICAL SPECIALISTS	1,030	1,230	200	19.4%	270
41	ACTUARIES	220	310	90	40.9%	100
44	MATHEMATICIANS & STATISTICIANS	360	430	70	19.4%	100
45	ALL OTHER MATH SCIENTISTS	450	490	40	8.9%	70
47	ENG & SCIENCE TECHNICIANS	22,430	28,010	5,580	24.9%	3,820
48	BIO & AGRICUL SCI TECHS	390	460	70	17.9%	60
49	CHEMICAL TECHNICIANS	80	90	10	12.5%	10
51	DRAFTERS	6,840	7,870	1,030	15.1%	1,100
52	ESTIMATORS & DRAFTERS, UTILITIES	230	240	10	4.3%	40
54	SOUND RECORDING & REPRO TECHNS	50	70	20	40.0%	10
56	ELECTRICAL & ELECTRONIC TECHNS	6,990	9,020	2,030	29.0%	990
58	BROADCAST TECHNICIANS	530	580	50	9.4%	70
59	INDUSTRIAL ENGINEERING TECHS	80	90	10	12.5%	30
61	MECHAN ENGINEERING TECHNICIANS	560	680	120	21.4%	120
62	SURVEYORS	400	430	30	7.5%	70
74	PHYSICAL SCIENCE TECHNICIANS	280	290	10	3.6%	50
78	CIVIL ENGINEERING TECHNICIANS	730	820	90	12.3%	140
79	ALL OTHR ENGINEERING TECHNICIANS	3,730	5,180	1,450	38.9%	790
80	ALL OTHER SCIENCE TECHNICIANS	1,540	2,190	650	42.2%	340
81	MEDICAL PRACTITIONERS	32,540	39,430	6,890	21.2%	10,860
82	CHIROPRACTORS	90	110	20	22.2%	90
83	DENTISTS	2,240	2,740	500	22.3%	360
84	DIETITIANS & NUTRITIONISTS	670	790	120	17.9%	280
85	REGISTERED NURSES	16,970	20,380	3,410	20.1%	7,110
86	OPTOMETRISTS	190	240	50	26.3%	90
87	PHARMACISTS	1,280	1,630	350	27.3%	680
88	PHYSICIANS & SURGEONS	7,460	8,940	1,480	19.8%	990
89	PODIATRISTS	230	290	60	26.1%	140
91	OCCUPATIONAL THERAPISTS	360	490	130	36.1%	120
92	MANUAL ARTS, MUSIC, REC THERAPISTS	360	410	50	13.9%	110
93	SPEECH & HEARING CLINICIANS, ETC	660	880	220	33.3%	230
94	PHYSICAL THERAPISTS	940	1,270	330	35.1%	320
98	INHALATION THERAPISTS	500	580	80	16.0%	150
99	ALL OTHER THERAPISTS	590	680	90	15.3%	190
101	MEDICAL TECHNICIANS	22,290	26,250	3,960	17.8%	8,040
103	MEDICAL LAB TECHNOLOGISTS	2,070	2,440	370	17.9%	610
106	CYTOTECHNOLOGISTS	80	100	20	25.0%	20
108	MEDICAL LAB ASSISTANTS	1,330	1,580	250	18.8%	390
109	BLOOD BANK TECH SPECIALISTS	90	130	40	44.4%	30
111	DENTAL ASSISTANTS	3,340	4,020	680	20.4%	1,390
112	DENTAL HYGIENISTS	1,850	2,230	380	20.5%	570

LINE NUMBER	OCCUPATIONAL TITLE	ANNUAL 1983	AVERAGES 1993	ABSOLUTE CHANGE	PERCENT CHANGE	OPENINGS DUE TO SEPARATION
113	MEDICAL RECORD LIBRARIANS	510	590	80	15.7%	210
115	X-RAY TECHNICIANS	1,590	1,870	280	17.6%	480
118	RADIOLOGIC TECHS & NUC MED TECHS	270	300	30	11.1%	80
121	SURGICAL TECHNICIANS	440	510	70	15.9%	120
124	PROSTHETISTS, ORTHOTISTS	80	100	20	25.0%	30
125	EKG TECHNICIANS	410	460	50	12.2%	110
126	EEG TECHNICIANS	100	120	20	20.0%	30
127	PARAMEDICS	600	710	110	18.3%	190
128	PHARMACY HELPERS	340	380	40	11.8%	130
129	LICENSED VOCATIONAL NURSES	6,640	7,720	1,080	16.3%	2,910
130	DIETETIC TECHNICIANS	100	120	20	20.0%	30
131	PHYSICAL THERAPY TECHNICIANS	260	350	90	34.6%	100
133	PHYSICIANS ASSISTANTS	220	260	40	18.2%	60
134	ALL OTHER MED & DENT TECHNICIANS	1,970	2,260	290	14.7%	550
136	MISCELLANEOUS TECHNICIANS	3,820	4,350	530	13.9%	520
137	AIRPLANE PILOTS	2,020	2,350	330	16.3%	250
138	AIR TRAFFIC CONTROLLERS	830	920	90	10.8%	120
139	EMBALMERS	160	150	-10	-6.3%	30
140	FLIGHT ENGINEERS	620	700	80	12.9%	70
141	RADIO OPERATORS	60	60	0	0.0%	20
142	CNC TOOL PROGRAMERS	50	70	20	40.0%	10
144	MUSEUM TECHNICIANS, RESTORERS	80	100	20	25.0%	20
147	ALL OTHER TECHNICIANS	7,590	8,770	1,180	15.5%	1,690
148	TECHNICAL ASSISTANTS, LIBRARY	400	420	20	5.0%	80
149	COMPUTER SPECIALISTS	15,760	26,120	10,360	65.7%	2,240
150	COMPUTER PROGRAMMERS	7,910	12,020	4,110	52.0%	1,010
153	SYSTEMS ANALYSTS, EDP	7,850	14,100	6,250	79.6%	1,230
156	SOCIAL SCIENTISTS	4,260	5,370	1,110	26.1%	1,120
158	FINANCIAL ANALYSTS	570	750	180	31.6%	150
159	ECONOMISTS	510	660	150	29.4%	140
161	MARKET RESEARCH ANALYSTS	980	1,230	250	25.5%	230
163	PSYCHOLOGISTS	1,400	1,840	440	31.4%	390
165	URBAN AND REGIONAL PLANNERS	350	420	70	20.0%	50
166	ALL OTHER SOCIAL SCIENTISTS	450	470	20	4.4%	160
168	TEACHERS	60,140	69,060	8,920	14.8%	17,780
169	TEACHERS, ADULT EDUCATION	1,310	1,500	190	14.5%	440
171	TEACHERS, VOCATIONAL EDUCATION	1,700	2,060	360	21.2%	450
172	TEACHERS, COLLEGE	14,830	14,790	-40	-0.3%	3,580
173	GRADUATE ASSISTANTS	3000	3300	300	10.0%	780
180	TEACHERS, ELEMENTARY	16,230	21,850	5,620	34.6%	6,000
182	TEACHERS, PRESCHOOL OR KINDERGRTN	6,150	7,630	1,480	24.1%	2,350
183	TEACHERS, SECONDARY	15,600	16,450	850	5.4%	3,540
185	DANCE INSTRUCTORS	200	250	50	25.0%	100
188	ALL OTHER TEACHERS	1,120	1,230	110	9.8%	540
189	WRITERS, ARTISTS, ENTERTAINERS	15,050	19,040	3,990	26.5%	4,590
190	ACTORS & ACTRESSES	270	340	70	25.9%	90
193	ATHLETES	290	360	70	24.1%	70
195	SPORTS INSTRUCTORS	460	570	110	23.9%	120
197	ATHLETIC TRAINERS	60	70	10	16.7%	10
199	DANCERS	120	160	40	33.3%	50
201	DESIGNERS	3,120	4,070	950	30.4%	830
204	WRITERS & EDITORS	2,340	3,000	660	28.2%	810
205	FILM EDITORS	110	150	40	36.4%	40
206	REPORTERS & CORRESPONDENTS	1,210	1,490	280	23.1%	410
210	MUSICIANS, INSTRUMENTAL	2,520	3,180	660	26.2%	810
211	SINGERS	140	170	30	21.4%	40
212	CHOIRMASTERS	320	320	0	0.0%	90
215	COMMERCIAL ARTISTS	1,170	1,570	400	34.2%	390
216	PAINTERS, ARTISTIC	110	120	10	9.1%	30
221	TELEVISION CAMERA OPERATORS	170	190	20	11.8%	20
224	PHOTOGRAPHERS	680	820	140	20.6%	210
225	PUBLIC RELATIONS SPECIALISTS	1,680	2,100	420	25.0%	520
227	ANNOUNCERS	280	360	80	28.6%	50
232	OTHER PROFESSIONAL WORKERS	78,180	96,530	18,350	23.5%	28,980
233	ACCOUNTING OCCUPATIONS	19,880	25,240	5,360	27.0%	7,880
234	ACCOUNTANTS & AUDITORS	17,790	22,910	5,120	28.8%	7,080
235	BUDGET ANALYSTS	290	330	40	13.8%	110

LINE NUMBER	OCCUPATIONAL TITLE	ANNUAL 1983	AVERAGES 1993	ABSOLUTE CHANGE	PERCENT CHANGE	OPENINGS DUE TO SEPARATION
236	TAX EXAMINERS, COLLECTRS, REV AGTS	1,320	1,370	50	3.8%	470
237	TAX PREPARERS	480	630	150	31.3%	220
238	ARCHITECTS	1,450	1,920	470	32.4%	430
243	MUSEUM CURATORS	60	70	10	16.7%	20
244	BUYING OCCUPATIONS	7,750	9,180	1,430	18.5%	2,890
245	PURCHASING AGENTS & BUYERS	2,890	3,280	390	13.5%	830
247	MEDIA BUYERS	70	120	50	71.4%	40
248	BUYERS, RETAIL & WHOLESALE TRADE	4,790	5,780	990	20.7%	2,020
251	CLERGY	2,770	2,780	10	0.4%	930
252	DIRECTORS, RELIGIOUS EDUCATION	170	170	0	0.0%	110
254	FORESTERS & CONSERV SCIENTISTS	70	80	10	14.3%	10
257	JUDGES	590	610	20	3.4%	550
259	LEGAL OCCUPATIONS	9,830	14,400	4,570	46.5%	4,610
260	LAW CLERKS	1,160	1,570	410	35.3%	510
261	LAWYERS	7,040	10,220	3,180	45.2%	3,240
262	PARALEGAL PERSONNEL	1,630	2,610	980	60.1%	860
264	LIBRARIANS	2,610	2,860	250	9.6%	1,070
268	PERSONNEL, LABOR REL SPECIALISTS	4,230	4,660	430	10.2%	1,060
269	EMPLOYMENT INTERVIEWERS	1,490	2,420	930	62.4%	470
272	GROUP RECREATION WORKERS	3,470	3,740	270	7.8%	800
273	CAMP DIRECTORS	100	110	10	10.0%	30
275	SOCIAL SERVICES WORKERS	5,890	6,310	420	7.1%	1,690
276	WELFARE INVESTIGATORS	440	460	20	4.5%	130
277	COMMUNITY ORGANIZATION WORKERS	1,030	1,140	110	10.7%	300
278	VOCATIONAL & EDUC COUNSELORS	2,960	3,130	170	5.7%	810
283	SAFETY INSPECTORS	200	220	20	10.0%	70
284	APPRAISERS	110	130	20	18.2%	40
285	COST ESTIMATORS, ENGINEERING	2,270	2,960	690	30.4%	800
286	CREDIT ANALYSTS, CHIEF	280	330	50	17.9%	90
287	CREDIT ANALYSTS	550	650	100	18.2%	180
288	TITLE EXAMINERS & ABSTRACTORS	210	230	20	9.5%	70
290	ESTIMATORS, PRINTING SERVICES	80	90	10	12.5%	30
291	UNDERWRITERS	1,800	2,170	370	20.6%	740
292	INVESTIGATORS, INSURANCE	270	320	50	18.5%	70
293	APPRAISERS, REAL ESTATE	950	1,080	130	13.7%	350
294	ASSESSORS	330	350	20	6.1%	150
295	CLAIMS TAKERS, UNEMP BENEFITS	1,230	1,280	50	4.1%	380
296	BROKER'S FL REPS, SEC TRADRS, ETC	320	480	160	50.0%	150
297	SPECIAL AGENTS, INSURANCE	360	400	40	11.1%	120
298	TRAVEL AGENTS	2,970	4,580	1,610	54.2%	1,500
299	CLAIM EXAMINERS, PRPTY/CSLTY INS	950	1,270	320	33.7%	250
300	BLDG INSPECTORS, FIRE INSURANCE	510	710	200	39.2%	200
303	ALL OTHER PROFESSIONAL WORKERS	23,660	31,750	8,090	34.2%	3,450
304	MANAGERS & OFFICIALS	142,300	172,620	30,320	21.3%	55,660
306	MANAGERS, MERCHANDISE	4,480	5,330	850	19.0%	1,200
307	PUBLIC ADMINISTRATORS & INSPECTORS	4,790	5,060	270	5.6%	1,660
308	CONSTRUCTION INSPECTORS	750	850	100	13.3%	310
309	PUBLIC ADM INSPECTORS, EX CONST	2,590	2,700	110	4.2%	760
310	GOV EXECUTIVES & LEGISLATORS	670	700	30	4.5%	220
311	POSTMASTERS & MAIL SUPERINTS	780	810	30	3.8%	370
318	SHIPS' OFFICERS	170	170	0	0.0%	30
320	CONDUCTORS, TRAIN	140	100	-40	-28.6%	60
321	MANAGERS, REST'RANT, COFFEE SH, ETC	5,770	8,300	2,530	43.8%	2,310
326	MANAGERS, STORE	11,030	14,040	3,010	27.3%	4,500
327	MANAGERS, AUTO SERVICE DEPT	490	630	140	28.6%	200
328	MANAGERS, AUTO PARTS DEPT	430	560	130	30.2%	180
329	WHOLESALE	5,210	5,920	710	13.6%	2,000
330	ALL OTHER MANAGERS	109,790	132,510	22,720	20.7%	43,520
331	SALES WORKERS	119,710	149,290	29,580	24.7%	51,950
338	SALES AGENTS, SALES REPS, INSURANCE	3,970	4,740	770	19.4%	1,410
342	REAL ESTATE BROKERS	460	620	160	34.8%	360
343	SALES AGENTS, SALES REPS, REAL EST	4,030	5,450	1,420	35.2%	3,160
344	STOCK & BOND SALES AGENTS	3,600	5,450	1,850	51.4%	1,720

LINE NUMBER	OCCUPATIONAL TITLE	ANNUAL AVERAGES 1983	1993	ABSOLUTE CHANGE	PERCENT CHANGE	OPENINGS DUE TO SEPARATION
351	SALES CLERKS	50,790	63,220	12,430	24.5%	20,860
353	CONTRIBUTION SOLICITORS	400	470	70	17.5%	170
354	CRATING & MOVING ESTIMATORS	200	240	40	20.0%	80
355	SALES CLERK SUPERVISORS	2,720	3,220	500	18.4%	1,170
356	SALES REPS., NONTECHNICAL	13,110	15,510	2,400	18.3%	5,620
357	SALES REPS., TECHNICAL	24,810	30,440	5,630	22.7%	10,860
360	ALL OTHER SALES WORKERS	15,620	19,930	4,310	27.6%	6,540
361	CLERICAL WORKERS	405,210	481,580	76,370	18.8%	143,890
362	SECRETARIES & TYPISTS	79,400	96,940	17,540	22.1%	32,430
363	SECRETARIES	53,030	66,870	13,840	26.1%	22,240
364	STENOGRAPHERS	4,270	3,820	-450	-10.5%	1,560
365	TYPISTS	22,100	26,250	4,150	18.8%	8,630
366	OFFICE MACHINE OPERATORS	24,230	28,760	4,530	18.7%	6,770
369	PROOF MACHINE OPERATORS	1,530	1,850	320	20.9%	530
370	TRANSIT CLERKS, BANKING	60	80	20	33.3%	20
374	COMPUTER OPERATORS	4,480	6,050	1,570	35.0%	740
375	PERIPHERAL EDP EQPT OPERATORS	1,430	1,790	360	25.2%	210
376	DUPLICATING MACHINE OPERATORS	750	750	0	0.0%	280
377	DATA-ENTRY KEYERS	9,750	10,690	940	9.6%	2,940
379	ALL OTHER OFFICE MACHINE OPS	6,230	7,550	1,320	21.2%	2,050
382	OTHER CLERICAL WORKERS	301,580	355,880	54,300	18.0%	104,690
384	NEW ACCOUNTS TELLERS	1,600	1,820	220	13.7%	510
385	TELLERS	11,950	13,140	1,190	10.0%	3,830
388	ACCOUNTING CLERKS	18,640	21,280	2,640	14.2%	7,740
389	BOOKKEEPERS	15,440	18,770	3,330	21.6%	6,640
390	CASHIERS	26,570	34,680	8,110	30.5%	9,520
391	ELIGIBILITY WORKERS, WELFARE	1,490	1,560	70	4.7%	650
392	CLERICAL SUPERVISORS	11,310	13,310	2,000	17.7%	3,360
393	COLLECTORS	1,980	2,390	410	20.7%	810
394	COUNTER CLERKS	8,330	9,790	1,460	17.5%	3,360
395	CAR RENTAL CLERKS	860	1,080	220	25.6%	360
396	SERVICES ESTABLISHMENT CLERKS	610	690	80	13.1%	240
397	DESK CLERKS	1,360	1,690	330	24.3%	570
398	ORDER CLERKS	4,940	5,650	710	14.4%	1,980
399	CIRCULATION CLERKS	230	280	50	21.7%	100
400	CLASSIFIED AD CLERKS, NEWSPAPER	180	210	30	16.7%	70
402	AMUSEMENT FACILITY CLERKS	150	190	40	26.7%	40
405	DISPATCHERS	1,910	2,180	270	14.1%	540
406	DISPATCHERS, AIRPLANE	110	120	10	9.1%	30
407	DISPATCHERS, POLICE, FIRE, AMBULNCE	760	820	60	7.9%	210
408	ALL OTHER DISPATCHERS	1,040	1,240	200	19.2%	300
409	SURVEY WORKERS	1,100	1,680	580	52.7%	520
410	ESTIMATORS & INVESTIGATORS	4,070	4,990	920	22.6%	1,380
411	CREDIT AUTHORIZERS	710	850	140	19.7%	240
413	ADJUSTMENT CLERKS	920	1,070	150	16.3%	300
414	CHECKING CLERKS	330	400	70	21.2%	110
415	CLAIMS CLERKS	1,870	2,380	510	27.3%	650
416	CREDIT REPORTERS	100	110	10	10.0%	30
417	CUSTOMER SERV REPS, PRINT & PUBL	140	180	40	28.6%	50
419	PRODUCTION CLERKS	2,370	2,870	500	21.1%	650
421	FILE CLERKS	5,290	5,820	530	10.0%	2,000
422	PERSONNEL CLERKS	1,830	2,080	250	13.7%	680
425	CLAIM EXAMINERS, INSURANCE	2,170	2,600	430	19.8%	910
426	CLAIM ADJUSTERS	1,740	2,310	570	32.8%	460
427	LIBRARY ASSISTANTS	2,080	2,240	160	7.7%	720
428	POSTAL MAIL CARRIERS	7,860	8,130	270	3.4%	1,590
431	MAIL CLERKS, EX POST OFFICE	2,140	2,600	460	21.5%	790
434	MESSENGERS	1,560	1,780	220	14.1%	540
435	METER READERS	490	510	20	4.1%	80
436	PAYROLL/TIMEKEEPING CLERKS	2,860	3,360	500	17.5%	1,080
437	POSTAL SERVICE CLERKS	6,720	6,950	230	3.4%	1,860
439	PROOFREADERS, COMPOSED COPY	270	320	50	18.5%	150

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441	RECEPTIONISTS & RELATED CLERKS	13,430	16,130	2,700	20.1%	5,480
442	INFORMATION CLERKS	100	110	10	10.0%	40
443	RECEPTIONISTS	9,070	10,940	1,870	20.6%	3,710
444	SWITCHBD OPS/RECEPTIONISTS	4,260	5,080	820	19.2%	1,730
447	SHIPPING & RECEIVING CLERKS	7,420	8,780	1,360	18.3%	1,870
448	SHIPPING PACKERS	4,870	5,730	860	17.7%	1,220
450	FINANCIAL & RELATED CLERKS	6,820	8,340	1,520	22.3%	2,520
452	CREW SCHEDULERS,AIRLINES	80	90	10	12.5%	30
454	BROKERAGE CLERKS	470	660	190	40.4%	190
455	TRADE RECORDERS,STOCK EXCHANGE	90	130	40	44.4%	40
456	MARGIN CLERKS,BROKERAGE HOUSE	110	140	30	27.3%	40
457	RATERS,INSURANCE	1,050	1,210	160	15.2%	370
458	STATISTICAL CLERKS	3,360	4,230	870	25.9%	1,260
459	WORKSHEET CLERKS,INSURANCE	320	370	50	15.6%	110
462	COURT CLERKS	840	880	40	4.8%	290
463	INSURANCE CHECKERS	500	630	130	26.0%	190
465	PROCUREMENT CLERKS	660	740	80	12.1%	180
466	STOCK CLERKS,STOCKRM,WAREHS,ETC	12,460	14,760	2,300	18.5%	3,540
468	TEACHERS AIDES/EDUC ASSISTANTS	4,500	5,570	1,070	23.8%	1,190
470	TELEGRAPH OPERATORS	160	120	-40	-25.0%	50
472	SWITCHBOARD OPERATORS	4,180	4,730	550	13.2%	1,690
473	TELEPHONE OPERATORS	4,550	5,010	460	10.1%	1,910
477	TRANSPORTATION SALES CLERKS	3,900	4,230	330	8.5%	970
479	TRAFFIC AGENTS	440	530	90	20.5%	110
480	RESERVATION AGENTS	1,660	1,750	90	5.4%	400
481	AIR FREIGHT AGENTS	730	780	50	6.8%	180
482	TICKET AGENTS	1,070	1,170	100	9.3%	280
483	WEIGHERS,RECORD KEEPING	100	110	10	10.0%	30
484	MISC CLERICAL WORKERS	66,940	77,370	10,430	15.6%	23,230
485	LOAN CLOSERS	660	760	100	15.2%	230
486	DIVIDEND CLERKS	80	100	20	25.0%	30
487	COIN MACH OPS/CURRENCY SORTERS	270	330	60	22.2%	100
489	CANCELLATION CLERKS,INSURANCE	90	100	10	11.1%	30
491	CORRESPONDENCE CLERKS	240	250	10	4.2%	80
492	SERVICE REPS,UTILITIES	2,670	3,380	710	26.6%	970
493	MEDIA CLERKS/ESTIMATORS/BILLERS	60	100	40	66.7%	30
495	GENERAL CLERKS,OFFICE	55,530	63,580	8,050	14.5%	19,180
497	SECURITIES CASHIERS,EXCHANGE	90	140	50	55.6%	40
498	POLICY CHANGE CLERKS,INS	470	630	160	34.0%	180
499	PURCHASE & SALES CLERKS,SECURITY	80	90	10	12.5%	30
500	REAL ESTATE CLERKS	320	420	100	31.3%	120
501	SAFE DEPOSIT CLERKS	410	490	80	19.5%	140
503	STATEMENT CLERKS,BANKING	620	760	140	22.6%	220
504	MERCHANDISE EXCHANGE CLERKS	410	480	70	17.1%	140
505	TITLE SEARCHERS	170	190	20	11.8%	60
506	AD SCHEDULERS,TV STATIONS	100	140	40	40.0%	40
507	TRANSFER CLERKS,SECURITIES	110	170	60	54.5%	40
509	MARKING CLERKS,TRADE	1,090	1,290	200	18.3%	380
510	PROTECTIVE SIGNAL OPERATORS	80	120	40	50.0%	30
514	RATE CLERKS,FREIGHT	230	230	0	0.0%	70
516	TOWN CLERKS	100	110	10	10.0%	30
517	CREDIT CLERKS,BANK & INSUR	780	920	140	17.9%	270
518	MORTGAGE CLOSING CLERKS	680	740	60	8.8%	230
520	LOAN INS CLERKS,BANKING	250	250	0	0.0%	80
521	INSURANCE CLERKS,MEDICAL	1,350	1,600	250	18.5%	480
524	ALL OTHER CLERICAL WORKERS	29,820	37,100	7,280	24.4%	10,440
526	CRAFTS & REPAIR WORKERS	144,640	172,600	27,960	19.3%	38,870
527	CONSTRUCTION CRAFTS WORKERS	35,500	43,070	7,570	21.3%	10,320
529	CARPENTERS	11,390	13,830	2,440	21.4%	3,520
534	BRICKLAYERS	410	490	80	19.5%	110
535	STONE MASONS	60	70	10	16.7%	10
539	CEMENT MASONS	1,180	1,420	240	20.3%	280
545	ELECTRICIANS	7,550	9,290	1,740	23.0%	2,210
552	HEAVY EQUIPMENT OPERATORS	3,000	3,370	370	12.3%	670
553	BATCH PLANT OPERATORS	60	60	0	0.0%	10
556	PAINTERS	3,390	4,220	830	24.5%	1,380
557	PAPERHANGERS	50	60	10	20.0%	30

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559	PLASTERERS	290	320	30	10.3%	90
563	FITTERS,PIPELAYING	140	160	20	14.3%	40
564	PLUMBERS & PIPEFITTERS	4,590	5,590	1,000	21.8%	1,290
566	ROOFERS	1,820	2,390	570	31.3%	290
567	STRUCTURAL STEEL WORKERS	540	600	60	11.1%	120
568	METAL FABRICATORS	410	520	110	26.8%	90
570	FITTERS,STRUCTURAL METAL	190	180	-10	-5.3%	40
572	TILE SETTERS	190	210	20	10.5%	60
573	CEILING TILE INSTALLRS,FLR LAYRS	240	290	50	20.8%	80
576	BLUE COLLAR WORKER SUPERVISORS	14,290	16,710	2,420	16.9%	3,800
578	METAL CRAFTS WORKERS	11,120	12,280	1,160	10.4%	2,860
580	BOILERMAKERS	470	470	0	0.0%	200
581	HEAT TREATERS,ANNEALERS,ETC	80	60	-20	-25.0%	20
590	MACHINE TOOL SETTERS,METALWRKING	200	200	0	0.0%	30
593	PUNCH PRESS SETTERS,METAL	110	110	0	0.0%	20
594	SHEAR & SLITTER SETTERS	70	60	-10	-14.3%	10
597	LAYOUT MARKERS,METAL	210	200	-10	-4.8%	50
598	MACHINISTS	4,520	5,040	520	11.5%	1,230
599	MILLWRIGHTS	680	800	120	17.6%	200
603	MOLDERS,BENCH & FLOOR	100	70	-30	-30.0%	20
604	MOLDERS,MACHINE(METAL)	120	90	-30	-25.0%	20
607	METAL MOLD MAKERS,REPAIRERS	60	60	0	0.0%	10
621	MANIPULATORS,TABLE/BED OPS	110	50	-60	-54.5%	20
627	SHEET METAL WORKERS	3,650	4,320	670	18.4%	810
629	TOOL & DIE MAKERS	740	750	10	1.4%	220
633	MECHANICS,REPAIRERS & INSTALLERS	37,330	46,280	8,950	24.0%	9,230
634	REFRIG MECHANICS,A/C MECHANICS	1,390	1,860	470	33.8%	400
637	AIRCRAFT MECHANICS	4,900	5,970	1,070	21.8%	1,080
638	AUTO SEAT COVER, TOP INSTALLERS	140	170	30	21.4%	20
639	AUTO BODY REPAIRERS	1,770	2,150	380	21.5%	370
641	AUTOMOTIVE MECHANICS	9,500	11,730	2,230	23.5%	2,200
642	AUTO REPAIR SERVICE ESTIMATORS	210	280	70	33.3%	50
643	COMPUTER REPAIRERS	900	1,890	990	110.0%	100
646	ELEVATOR INSTALLERS/REPAIRERS	200	180	-20	-10.0%	50
647	ENGINEERING EQUIPMT MECHANICS	580	600	20	3.4%	150
648	POWERHOUSE MECHANICS	130	140	10	7.7%	30
650	MARINE MECHANICS/REPAIRERS	130	150	20	15.4%	30
651	MAINTENANCE MECHANICS	3,800	4,020	220	5.8%	990
659	ELECTRIC METER INSTALLERS,ETC	760	790	30	3.9%	180
662	GAS & ELEC APPLIANCE REPAIRERS	340	440	100	29.4%	90
663	HOUSEHOLD APPLIANCE INSTALLERS	60	90	30	50.0%	20
668	OFFICE MACHINE SERVICERS	1,840	2,850	1,010	54.9%	380
669	RADIO & TV SERVICERS & REPAIRERS	1,340	1,760	420	31.3%	320
674	RAILROAD CAR REPAIRERS	130	80	-50	-38.5%	50
677	BICYCLE REPAIRERS	110	150	40	36.4%	40
678	CAMERA REPAIRERS	70	90	20	28.6%	20
679	ELECTRIC MOTOR REPAIRERS	220	290	70	31.8%	70
685	LAUNDRY MACHINE MECHANICS	90	100	10	11.1%	30
686	LOCKSMITHS	90	110	20	22.2%	30
687	COIN MACHINE SERVICERS,REPAIRERS	260	300	40	15.4%	80
689	PROTECTIVE SIGNAL INST/REPAIRERS	350	530	180	51.4%	40
690	INSTRUMENT REPAIRERS	400	440	40	10.0%	120
691	DIESEL MECHANICS	1,750	2,010	260	14.9%	480
695	ELECTRONIC MECHANICS	1,930	2,510	580	30.1%	620
697	ALL OTHER MECHANICS & REPAIRERS	3,940	4,600	660	16.8%	1,190
698	PRINTING TRADES CRAFTS WORKERS	6,900	8,240	1,340	19.4%	1,980
700	SETTERS,BINDERY MACHINES	90	110	20	22.2%	50
702	BOOKBINDERS,HAND	100	130	30	30.0%	40
703	BOOKBINDERS,MACHINE	320	400	80	25.0%	130
704	BINDERY WORKERS,ASSEMBLY	480	550	70	14.6%	110
705	BINDERY WORKERS,STITCHING	90	90	0	0.0%	20
706	ALL OTHER BINDERY WORKERS	350	370	20	5.7%	80
708	COMPOSITORS & TYPESETTERS	1,540	1,580	40	2.6%	570
729	ETCHERS & ENGRAVERS	90	120	30	33.3%	50
732	STRIPPERS,PRINTING	380	480	100	26.3%	110
733	CAMERA OPERATORS,PRINTING	420	540	120	28.6%	120
734	PHOTOENGRAVERS	140	160	20	14.3%	40
736	PRESS OPERATORS,PLATE PRINTERS	720	900	180	25.0%	160
737	OFFSET LITHOGRAPHIC PRESS OPS	1,270	1,730	460	36.2%	300

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738	PLATEMAKERS	270	350	80	29.6%	60
741	LETTER PRESS OPERATORS	640	730	90	14.1%	140
745	TRANS,PUB UTIL CRAFTS WORKERS	9,730	11,570	1,840	18.9%	1,340
747	CABLE SPLICERS	2,300	3,070	770	33.5%	300
748	LINE INSTALLERS,REPAIRERS	1,020	1,200	180	17.6%	120
749	TROUBLE SHOOTERS,POWER LINE	110	110	0	0.0%	10
751	YARD ENGINEERS	80	60	-20	-25.0%	40
753	LOCOMOTIVE ENGINEERS	80	60	-20	-25.0%	40
755	ELECTRICAL GENERATING PLANT OPS	350	360	10	2.9%	210
760	TELEPHONE REPAIRERS	1,130	1,240	110	9.7%	120
762	TELEPHONE EQUIP INSTALLERS	2,010	2,600	590	29.4%	220
767	CABLE INSTALLERS	170	190	20	11.8%	20
768	TELEPHONE SWITCHING EQUIP WIRERS	590	600	10	1.7%	60
770	TELEPHONE REPAIR CLERKS	490	540	50	10.2%	50
771	TELEPHONE SWITCHING EQUIP RPRS	1,400	1,540	140	10.0%	150
774	MISCELLANEOUS CRAFTS WORKERS	22,610	25,930	3,320	14.7%	7,460
776	FOOD SHAPERS,BAKING INDUSTRY	160	150	-10	-6.3%	50
777	INDUSTRIAL BAKERS	410	420	10	2.4%	160
779	CABINETMAKERS	900	1,040	140	15.6%	330
780	CARPET CUTTERS,CARPET LAYERS	820	1,060	240	29.3%	100
782	CRANE,DERRICK,& HOIST OPERATORS	830	850	20	2.4%	200
785	MERCHAN DISPLAYERS & WIND TRMRS	470	600	130	27.7%	180
786	DENTAL LAB TECHNICIANS	1,040	1,290	250	24.0%	310
787	FURNITURE FINISHERS	220	260	40	18.2%	90
791	GLAZIERS	550	680	130	23.6%	110
799	PRODUCTION INSPECTORS	2,240	2,610	370	16.5%	810
801	PRODUCT TESTERS,NONTECHNICAL	740	820	80	10.8%	260
806	JEWELERS & SILVERSMITHS	260	320	60	23.1%	180
807	WATCHMAKERS	70	70	0	0.0%	50
816	MILLERS,FOOD PROCESSING	50	50	0	0.0%	10
817	MOTION PICTURE PROJECTIONISTS	510	570	60	11.8%	400
819	LENS GRINDERS	110	130	20	18.2%	50
820	OPTICIANS,DISP & OPTIC MECHS	470	610	140	29.8%	170
821	SHIPFITTERS	270	250	-20	-7.4%	80
824	SHOE REPAIRERS	150	130	-20	-13.3%	130
827	STATIONARY ENGINEERING OCCUPATIONS	2,680	2,900	220	8.2%	940
828	STEAM GENERATING PLANT OPS	90	80	-10	-11.1%	30
830	AUXILIARY EQUIP OPS,POWERPLANT	100	80	-20	-20.0%	30
832	PIPELINE OPERATORS	80	80	0	0.0%	30
836	SEWAGE PLANT OPERATORS	410	430	20	4.9%	140
837	STATIONARY ENGINEERS	1,500	1,750	250	16.7%	550
840	PUMP STAT OPERATORS,WATERWORKS	80	90	10	12.5%	30
845	STATION ENGINEERS,PIPE LINE	130	130	0	0.0%	40
846	WATER TREATMENT PLANT OPERATORS	190	190	0	0.0%	60
847	SHIP ENGINEERS	100	70	-30	-30.0%	30
853	TAILORS	860	1,020	160	18.6%	520
856	SAMPLE MAKERS,GARMENT MFG	150	170	20	13.3%	100
862	UPHOLSTERERS	490	460	-30	-6.1%	150
877	SHIP RIGGERS	150	140	-10	-6.7%	30
881	ORTHOPEDIC DEVICE MAKERS	180	200	20	11.1%	60
884	MAINTENANCE REPAIRERS,GEN UTIL	7,530	8,820	1,290	17.1%	1,910
885	FORMING MACH MAINTAINERS,GLASS	80	80	0	0.0%	20
889	MUSICAL INSTRUMENTS REPAIRERS	50	60	10	20.0%	20
890	CORROSION CONTROL FITTERS	50	50	0	0.0%	10
891	CUSTOM CRATERS,LARGE PRODS	120	120	0	0.0%	30
892	ALL OTHER SKILLED CRAFT WORKERS	7,160	8,520	1,360	19.0%	1,880
894	OPERATIVES	141,570	163,530	21,960	15.5%	35,280
895	SEMISKILLED METALWORKING OCCUPATIONS	9,620	10,380	760	7.9%	2,170
897	DRILL PRESS/BORING MACHINE OPS	530	560	30	5.7%	150
919	POURERS,METAL	160	140	-20	-12.5%	30
920	FURNACE OPERATORS,CUPOLA TENDERS	90	70	-20	-22.2%	20
923	GRINDING/ABRADING MACH OPS,METAL	530	490	-40	-7.5%	130
932	LATHE MACH OPERATORS,METAL	620	640	20	3.2%	140
933	MILLING/PLANING MACHINE OPERATRS	160	150	-10	-6.3%	30
938	ELECTROPLATERS	400	400	0	0.0%	70
939	DIP PLATERS,NONELECTROLYTIC	100	100	0	0.0%	20

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942	MACHINE TOOL OPERATORS, COMBO	2,120	2,700	580	27.4%	510
948	PUNCH PRESS OPERATORS, METAL	1,070	1,070	0	0.0%	220
950	POWER BRAKE, BENDING MACH OPS, MET	280	270	-10	-3.6%	60
955	COMBINATION WELDERS	3,100	3,300	200	6.5%	690
956	PRODUCTION-LINE WELDERS	460	490	30	6.5%	100
1029	PACKAGING OCCUPATIONS	10,560	11,260	700	6.6%	3,030
1032	SELECTORS, GLASSWARE	740	770	30	4.1%	180
1042	PRODUCTION PACKAGERS	7,770	8,360	590	7.6%	2,270
1043	BUNDLERS, GARMENT MFG	140	180	40	28.6%	40
1044	BAGGERS, GROCERY	1,910	1,950	40	2.1%	540
1048	OTHER OPERATIVES EX TRANS	52,550	61,630	9,080	17.3%	14,970
1049	INSULATION INSTALLERS	480	650	170	35.4%	110
1050	ASSEMBLERS	10,390	13,260	2,870	27.6%	2,910
1056	WIRERS, ELECTRONIC	310	470	160	51.6%	90
1062	PRECISION MACHINE ASSEMBLERS	320	400	80	25.0%	90
1064	PRECISION ELECTROMECH ASSEMBLERS	420	570	150	35.7%	120
1065	PRECISION ELECTRONICS ASSEMBLERS	1,100	1,570	470	42.7%	320
1066	ALL OTHER PRECISION ASSEMBLERS	740	890	150	20.3%	270
1068	GENERAL MACHINE ASSEMBLERS	200	250	50	25.0%	50
1069	GENERAL INSTRUMENT ASSEMBLERS	310	400	90	29.0%	90
1070	GENERAL ELECTROMECH ASSEMBLERS	710	940	230	32.4%	200
1071	GENERAL ELECTRONICS ASSEMBLERS	2,230	2,680	450	20.2%	600
1075	ALL OTHER GENERAL ASSEMBLERS	790	940	150	19.0%	200
1076	PRODUCTION-LINE ASSEMBLERS	3,030	3,930	900	29.7%	830
1081	ALL OTHER ASSEMBLERS	230	220	-10	-4.3%	50
1089	SURVEYOR HELPERS	260	300	40	15.4%	40
1090	PRESSERS, CLOTHING	2,260	2,530	270	11.9%	970
1101	CUTTING MACHINE OPERATIVES	1,120	1,240	120	10.7%	290
1146	DRY WALL INSTALLERS & LATHERS	1,760	2,280	520	29.5%	220
1158	FILERS, GRINDERS, BUFFERS, CHIPPERS	660	620	-40	-6.1%	170
1176	GAS STATION ATTENDANTS	7,830	8,300	470	6.0%	1,030
1177	TIRE CHANGERS	1,010	1,330	320	31.7%	150
1179	LAUNDRY & DRYCLEANING OCCUPATIONS	2,140	2,360	220	10.3%	880
1180	MARKERS, LAUNDRY	350	380	30	8.6%	140
1181	SPOTTERS, DRYCLEANING	80	90	10	12.5%	30
1183	WASHERS, MACH &/OR STARCHERS	870	970	100	11.5%	360
1184	TUMBLER OPERATORS	50	60	10	20.0%	20
1185	DRYCLEANING MACHINE OPERATORS	160	180	20	12.5%	70
1188	LAUNDRY OPERATORS, SM ESTABLISH	280	290	10	3.6%	110
1191	RUG CLEANERS, HAND	90	100	10	11.1%	40
1197	FOLDERS, LAUNDRY	260	290	30	11.5%	110
1204	INDUSTRIAL BUTCHERS	230	230	0	0.0%	60
1224	GAGERS, PETROLEUM REFINING	110	120	10	9.1%	30
1261	PAINT PRODUCTION WKRS	140	140	0	0.0%	20
1267	MIXERS/BLENDERS, CHEMICALS	570	580	10	1.8%	110
1268	MIXERS, FOOD	820	800	-20	-2.4%	160
1271	PAINTERS, MANUFACTURED PRODUCTS	1,910	2,400	490	25.7%	440
1272	PAINTERS, AUTOMOTIVE	980	1,220	240	24.5%	220
1275	PAINTERS, PRODUCTION	860	1,100	240	27.9%	200
1276	PAINTERS, AIRCRAFT	70	80	10	14.3%	20
1277	PHOTO PROCESS WORKERS	1,960	2,650	690	35.2%	650
1298	SAILORS & DECKHANDS	1,200	940	-260	-21.7%	400
1302	SAWYERS	170	180	10	5.9%	50
1319	SEWERS	8,490	10,660	2,170	25.6%	4,070
1322	MENDERS	140	140	0	0.0%	60
1323	SEWING MACH OPS, REG EQMT, NONGAR	860	1,010	150	17.4%	400
1330	HAND SEWERS	450	450	0	0.0%	220
1332	SEWING MACH OPS, SPEC EQMT, NONGAR	430	530	100	23.3%	200
1334	SEWING MACH OPS, SPEC EQMT, GAR	880	1,150	270	30.7%	430
1335	SEWING MACH OPS, REG EQMT, GARMENT	5,730	7,380	1,650	28.8%	2,760
1371	STATIONARY BOILER FIRERS	320	290	-30	-9.4%	110
1394	COIL WINDERS	230	280	50	21.7%	70
1415	MISC FOOD PROCESSING OPERATIVES	1,260	1,330	70	5.6%	280

LINE NUMBER	OCCUPATIONAL TITLE	ANNUAL 1983	AVERAGES 1993	ABSOLUTE CHANGE	PERCENT CHANGE	OPENINGS DUE TO SEPARATION
1498	WOODWORKING MACHINE OPERATORS	190	210	20	10.5%	40
1535	ENVELOPE MACHINE OPERATORS	170	170	0	0.0%	40
1543	CORRUGATED BOX MACHINE OPS	170	160	-10	-5.9%	40
1594	CHEMICAL OPERATORS	330	340	10	3.0%	70
1595	CHEMICAL-PROCESSING-EQUIP TENDERS	420	440	20	4.8%	100
1598	CHIEF CHEMICAL OPERATORS	250	260	10	4.0%	60
1622	EXTRUDER OPS,RUBBER OR PLASTICS	100	130	30	30.0%	20
1623	EXTRUDER OP HELPERS,RUB OR PLAS	60	70	10	16.7%	10
1636	MOLDING MACHINE OPERATORS,PLASTICS	700	960	260	37.1%	180
1664	FORMING MACH OPS,GLASSWARE	210	210	0	0.0%	50
1701	MISC PRIM METAL OPERATIVES	480	460	-20	-4.2%	90
1745	SCREEN/STENCIL PRINTERS/SETTERS	210	290	80	38.1%	50
1788	TIRE FABRICATORS,REPAIRERS	330	370	40	12.1%	80
1792	REFINERY OPERATORS,PETROLEUM	960	960	0	0.0%	210
1797	BENCH HANDS,JEWELRY	50	60	10	20.0%	10
1810	FABRICATORS,PLASTICS	180	260	80	44.4%	50
1811	FINISHERS,PLASTICS	110	130	20	18.2%	30
1821	PLATER HELPERS	240	190	-50	-20.8%	50
1840	BAKER HELPERS	130	130	0	0.0%	30
1879	REFINERY OPERATOR HELPERS,PETROL	410	410	0	0.0%	100
1883	THREAD TRIMMERS,GARMENT MFG	230	240	10	4.3%	60
1900	PRESS ASSISTANTS & FEEDERS	420	490	70	16.7%	110
1901	COPY MARKERS,PRINTING	50	70	20	40.0%	10
1905	EXTERMINATORS	230	340	110	47.8%	70
1908	TERMITE TREATERS	450	610	160	35.6%	140
1909	TERMITE TREATER HELPERS	150	200	50	33.3%	50
1911	TRANSPORTATION EQUIP OPERATIVES	51,750	59,780	8,030	15.5%	11,220
1914	BUS DRIVERS	7,670	8,650	980	12.8%	2,100
1915	BUS DRIVERS,SCHOOL	810	1,000	190	23.5%	240
1916	STREETCAR OPERATORS	200	200	0	0.0%	30
1918	DELIVERY & ROUTE WORKERS	14,600	17,320	2,720	18.6%	2,890
1919	FURNITURE ASSEMBLERS & INSTALLRS	150	180	30	20.0%	30
1921	INDUSTRIAL TRUCK OPERATORS	4,630	4,920	290	6.3%	740
1926	PARKING LOT ATTENDANTS	1,140	1,280	140	12.3%	510
1927	BRAKERS,TRAIN	320	220	-100	-31.3%	70
1930	AMBULANCE DRIVERS/AMB ATTENDANTS	1,270	1,510	240	18.9%	490
1933	TAXI DRIVERS	510	630	120	23.5%	210
1935	RENTAL CAR DELIVERY WORKERS	100	130	30	30.0%	40
1936	CHAUFFEURS	180	200	20	11.1%	70
1938	TRUCK DRIVERS	20,170	23,540	3,370	16.7%	3,800
1943	ALL OTHER OPS & SEMISKILLED WKRS	17,090	20,480	3,390	19.8%	3,890
1944	SERVICE WORKERS	242,750	304,990	62,240	25.6%	94,910
1946	JANITORS,PORTERS,& CLEANERS	42,960	53,660	10,700	24.9%	20,630
1953	FOOD SERVICE WORKERS	106,500	137,190	30,690	28.8%	38,030
1954	RETAIL BAKERS	1,330	1,860	530	39.8%	530
1955	BARTENDERS	6,820	8,570	1,750	25.7%	2,890
1956	DINING RM ATTNS,BAR HELPERS,ETC	7,350	9,750	2,400	32.7%	810
1958	COOKS,SHORT ORDER/SPEC FAST FD	8,840	11,180	2,340	26.5%	3,300
1959	COOKS,RESTAURANT	7,050	9,300	2,250	31.9%	2,700
1960	COOKS,INSTITUTIONAL	4,580	5,030	450	9.8%	1,590
1961	COUNTER ATTNS,LUNCHRM,COF SH,ETC	4,700	6,430	1,730	36.8%	1,840
1962	RETAIL BUTCHERS	3,680	4,180	500	13.6%	1,120
1964	HOSTS/HOSTESSES,REST,LNGE,COF SH	2,610	3,640	1,030	39.5%	930
1965	WAITERS & WAITRESSES	27,470	34,500	7,030	25.6%	9,260
1968	KITCHEN HELPERS	12,600	16,090	3,490	27.7%	5,010
1969	FAST FOOD WORKERS	11,000	16,810	5,810	52.8%	4,850
1970	PANTRY,SANDWICH,&/OR COFF MAKERS	2,200	2,960	760	34.5%	900
1971	ALL OTHER FOOD SERVICE WORKERS	6,270	6,890	620	9.9%	2,300
1972	HEALTH SERVICE WORKERS	19,530	22,370	2,840	14.5%	6,980
1973	OCCUPATIONAL THERAPY AIDES	80	90	10	12.5%	30
1976	NURSE ASSISTANTS	16,340	18,610	2,270	13.9%	5,820
1977	PSYCHIATRIC AIDES	1,160	1,340	180	15.5%	420
1979	MEDICAL ASSISTANTS	1,950	2,330	380	19.5%	710
1981	PERSONAL SERVICE WORKERS	21,650	24,850	3,200	14.8%	8,810
1982	FLIGHT ATTENDANTS	3,510	3,740	230	6.6%	1,380
1984	RECREATION FACILITY ATTENDANTS	680	770	90	13.2%	180

LINE NUMBER	OCCUPATIONAL TITLE	ANNUAL 1983	AVERAGES 1993	ABSOLUTE CHANGE	PERCENT CHANGE	OPENINGS DUE TO SEPARATION
1985	GAME OPS, RIDE OPS, CONCESS WKRS	230	290	60	26.1%	60
1988	LIFEGUARDS	200	210	10	5.0%	60
1999	HOUSEKEEPERS, HOTEL & MOTEL	570	700	130	22.8%	280
2000	CHECKROOM & LOCKER RM ATTN	480	600	120	25.0%	250
2001	GUIDES, SIGHTSEEING	190	250	60	31.6%	90
2003	BELLHOPS, BAG PORTERS, DRKPRS, ETC	660	740	80	12.1%	250
2005	BAGGAGE HANDLERS	330	370	40	12.1%	60
2006	BARBERS	720	860	140	19.4%	360
2009	CHILD CARE ATTENDANTS	380	470	90	23.7%	190
2010	CHILD CARE WORKERS	4,800	5,760	960	20.0%	2,220
2011	ELEVATOR OPERATORS	280	270	-10	-3.6%	260
2013	COSMETOLOGISTS & HAIRSTYLISTS	5,300	5,980	680	12.8%	2,090
2021	USHERS, LOBBY ATTN, TICKET TAKERS	1,770	2,030	260	14.7%	490
2022	SOCIAL SERVICE AIDES	1,550	1,810	260	16.8%	590
2023	PROTECTIVE SERVICE WORKERS	33,610	44,980	11,370	33.8%	17,160
2026	SCHOOL CROSSING GUARDS	310	320	10	3.2%	420
2029	FIRE FIGHTERS	3,380	3,540	160	4.7%	400
2030	FIRE INSPECTORS	150	160	10	6.7%	20
2031	FIRE OFFICERS	1,130	1,190	60	5.3%	130
2033	GUARDS & DOORKEEPERS	16,690	26,160	9,470	56.7%	13,730
2034	CHECKERS, FITTING ROOM	370	430	60	16.2%	260
2037	CORRECTION OFFICERS &/OR JAILERS	1,330	1,580	250	18.8%	930
2040	DETECTIVES, PRIVATE	230	270	40	17.4%	40
2041	STORE DETECTIVES	230	250	20	8.7%	30
2043	POLICE OFFICERS	1,540	1,690	150	9.7%	190
2044	POLICE DETECTIVES	1,100	1,210	110	10.0%	130
2045	POLICE PATROLMEN/WOMEN	5,910	6,800	890	15.1%	730
2046	PARKING ENFORCEMENT OFFICERS	340	390	50	14.7%	50
2047	SHERIFFS & BAILIFFS	900	990	90	10.0%	100
2059	SUPERVISORS, SERVICE WORKERS	4,540	5,560	1,020	22.5%	1,240
2060	ALL OTHER SERVICE WORKERS	13,960	16,380	2,420	17.3%	2,060
2061	LABORERS & UNSKILLED WORKERS	52,250	58,720	6,470	12.4%	11,220
2062	ANIMAL CARETAKERS	280	290	10	3.6%	80
2063	CONSTRUCTION LABORERS	2,560	2,820	260	10.2%	500
2064	AIR HAMMER OPERATORS	110	140	30	27.3%	20
2070	FENCE ERECTORS	230	240	10	4.3%	50
2071	GROUND WORKERS, UTILITIES	230	240	10	4.3%	40
2072	PIPELAYERS	480	540	60	12.5%	90
2073	REINFORCING-IRON WORKERS	370	470	100	27.0%	80
2076	HIGHWAY MAINTENANCE WORKERS	1,060	1,100	40	3.8%	200
2077	ASPHALT RAKERS	80	90	10	12.5%	20
2079	FREIGHT & MATERIAL HANDLERS	360	400	40	11.1%	70
2094	WEIGHERS, PRODUCTION	110	130	20	18.2%	20
2097	LOADERS, TANK CARS &/OR TRUCKS	50	60	10	20.0%	10
2098	CONVEYOR OPERATORS OR TENDERS	200	210	10	5.0%	40
2101	REFUSE COLLECTORS	1,440	1,580	140	9.7%	250
2103	GARDENERS & GROUNDSKEEPERS	4,510	5,190	680	15.1%	2,500
2117	STOCK HANDLERS	11,500	13,480	1,980	17.2%	1,680
2118	ORDER FILLERS	6,830	7,730	900	13.2%	980
2119	STOCK CLERKS, SALES FLOOR	4,670	5,750	1,080	23.1%	700
2127	MISCELLANEOUS LABORERS	10,880	12,720	1,840	16.9%	2,460
2122	CLEANERS, VEHICLE	1,750	2,000	250	14.3%	310
2149	RIGGERS, CARGO MOVING	360	410	50	13.9%	110
2150	HELPERS, TRADES	6,290	7,600	1,310	20.8%	1,320
2151	CANNERY WORKERS	180	130	-50	-27.8%	30
2152	TRUCK DRIVER HELPERS	990	1,150	160	16.2%	290
2157	LINE SERVICE ATTENDS, AIRCRAFT	1,190	1,280	90	7.6%	360
2159	SEPTIC TANK SERVICERS, ETC	120	150	30	25.0%	40
2171	ALL OTHER LABORERS & UNSKLD WKRS	20,720	22,240	1,520	7.3%	3,680

METHODOLOGY

These projections were based on an industry-driven projections model in which the basic method was to forecast industry change. Occupational change is not forecast directly, but rather is primarily a function of industry change. This type of methodology required three major steps. First, an industry forecast was made to determine projected job totals by industry. Second, the industry job totals were converted to occupational totals by using industry staffing patterns. We used one set of staffing patterns for the base year (1983) and a second set for the target year (1993). The base year staffing patterns used data from the Occupational Employment Statistics (OES) program. The target year staffing patterns were a modified version of the OES data, which incorporated data from the Bureau of Labor Statistics (BLS) on relative changes of industry staffing patterns over time. Third, the base year and target year occupational distributions for each industry were summed by occupation to provide individual occupational totals, and openings due to separations were calculated. Each of these steps is discussed in more detail below.

THE INDUSTRY FORECASTS - The industry forecast used the Current Employment Statistics (CES) time series as a base. Those data were selected because they are the most accurate available series and incorporate up-to-date revisions in industry and geographical coding of individual firms' payroll data. The CES series covers the time period from 1972 to the present. This was another advantage of using the CES data because they provided a lengthy historical series on which to base our forecast. Use of CES data had a definite effect on selection of 1983 as the base year for this forecast. CES data are revised (or benchmarked) yearly. At the time this report was prepared the latest CES revision was March 1984 benchmark, which means that 1983 was the last year in which fully benchmarked (as opposed to sample-based) data were available. Consequently, because 1983 was the last year for which industry data were available that would not be subject to significant revision later, it was selected as the base year.

The CES industry aggregates, commonly called estimating cells, are largely at the two-digit Standard Industrial Classification (SIC) level. These industry totals were projected to 1993 using a multiple regression technique to incorporate our statewide 1980-90-95 industry forecast as one of the independent variables. In turn, this statewide forecast was based on the BLS national econometric model of the U.S. economy. Thus, this industry forecast indirectly incorporates some industry modeling which allows individual industries to follow different paths in the future compared to their historical trend. However, historical trend was still the major determinant of projected growth. Finally, the results of the regression procedures were analyzed and some changes were made to incorporate major developments, such as the NUMMI project, or to better reflect our perception of a particular industry's trend.

THE OCCUPATIONAL DISAGGREGATION - The industry staffing patterns used to convert industry job totals to industry occupational totals were the 1977-79 OES data. For the five-county Bay Area, the available OES staffing patterns were at the three-digit SIC industry level. Consequently, the CES projections were disaggregated to this level to take advantage of the most detailed available staffing patterns. This was simply done for 1983 using data from the BLS's ES-202 program. For 1993, a second regression was run using a three-digit

historical series as an independent variable. This allowed relatively faster or slower growth of individual three-digit SICs to continue within the boundaries of the two-digit forecast.

The OES staffing pattern data was derived from a mail survey of a sample of employers in the non-farm wage and salary sector of the economy during 1977-79. The survey was based on a random sample, stratified by industry and firm size, and designed to represent the total or "universe" of establishments in the Bay Area. Manufacturing was surveyed in the first year, construction, finance, and services in the second year, and the balance in the third year. For industries where the survey response was judged inadequate, substitute staffing patterns were developed using other data sources, such as the 1980 Census. Using data from 1977-79 to approximate 1983 job patterns had obvious limitations. However, it was our judgment that changes in staffing patterns between 1977-79 and 1983 were sufficiently small to allow development of valid data for 1983. In some industries where change was considered to be very pronounced, additional revised staffing patterns were developed.

An important characteristic of the OES data is the definition of "All Other" categories, such as "All Other Engineers." These categories are not strictly residual, but include jobs which have separate OES titles and were not included on the survey form for certain industries. Survey forms were customized to match the expected staffing patterns for individual industries, and thus each survey did not include all OES occupations. The category, "All Other Engineers" includes various miscellaneous engineering specialties for which there were no OES titles. But it also includes engineering specialties, such as civil engineer, which do have separate OES titles, but which were not listed on the survey form for industries where they were expected to be very small or non-existent. In these industries, any civil engineers were likely to be reported as "All Other Engineers" by the responding firms. As a result the OES data contain relatively large "All Other" categories and some occupations are undercounted. Many of these problems were lessened by adoption of a revised version of the Standard Occupation Classification (SOC) system for the new round of statewide OES data collection during 1983-85. This round has just been completed and the new data will be used in future projections reports.

CHANGE FACTORS - The 1993 occupational disaggregation used a modified version of 1977-79 OES staffing patterns. The 1977-79 data were adjusted using "change factors" provided by the BLS. Application of change factors shifted the relative proportion of occupations within industries to reflect faster or slower growing occupations. The change factors were from national data developed by the BLS based on their on-going research program. Once this process was complete, we analyzed the results and made some modifications based on our knowledge of unique local trends. Nevertheless, it is important to remember that relative change within industries (as opposed to occupational change caused by industry growth) is based on national patterns in this report.

SUMMATION AND SEPARATIONS - Finally, the occupation-by-industry distributions were summed for each occupation, and the 1983 and 1993 totals were matched by occupation to provide the final occupational totals. Then, the data were once again reviewed to ensure that they were reasonable. The final step was the generation of the number of openings due to separations. Separations openings were again based on national data developed by the BLS. The method used by the

BLS is referred to as the "working life table" method. Separation rates for occupations were developed from age-sex specific separation rates from the latest available working life tables, and the national or state age-sex breakout by occupation from the latest census data. The age-sex specific separation rates were multiplied by age-sex specific occupational employment which, when totaled by occupation, produces an average separation rate for an occupation. The BLS has developed these rates for all occupations used in the OES system. These rates were then applied to the mid-point of the 1983-93 forecast and multiplied by ten to produce estimated total openings due to separations for the ten-year period.

When looking at separations data at the detailed occupational level, it is important to remember several limitations of the working life table methodology. First, national or state data were used at the local level, so some distortions may result. Second, the working life table method undercounts job openings for a given occupation because it does not measure movement between occupations, and also probably undercounts short-term labor force separations. These problems are most pronounced for many traditionally high-turnover service occupations. Consequently, users of this report should not add growth and openings due to separations for individual occupations and assume this represents all of the potential job openings. At the major occupational group level, growth plus separations is a more accurate approximation of net demand for labor. For more information on this subject, refer to the March 1984 edition of Monthly Labor Review, published by the BLS.

ECONOMIC ASSUMPTIONS - The economic assumptions which underlie this projection are basically the same as those used by the BLS. The projection is predicated on marginal change in major social and economic variables. It is assumed that there will be no radical changes or sudden shifts in labor force participation, commodity availability, technology, or similar variables.

TITLES - Careful readers of this report and the previously released statewide projections report may notice some differences in the titles for certain occupations. We retitled some occupations to improve their clarity. Definitions and line numbers are unchanged. Note also that occupations with less than 50 total jobs in either 1983 or 1993 were rolled up into "All Other" categories.

ALPHABETICAL INDEX OF OCCUPATIONS

The alphabetical index of occupations is designed to aid in locating individual occupations in the detailed occupational table.

Note that the second column lists the line number which is the key used to locate individual occupations. This number is unique to each OES occupation and appears in column #1 of the detailed table.

The third column lists the major occupational group for each detailed occupation. This can be used to help identify the exact OES title of the occupation you are trying to locate.

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
ACCOUNTANTS & AUDITORS	234	PROFESSIONAL & TECHNICAL WORKERS
ACCOUNTING CLERKS	388	CLERICAL WORKERS
ACCOUNTING OCCUPATIONS	233	PROFESSIONAL & TECHNICAL WORKERS
ACTORS & ACTRESSES	190	PROFESSIONAL & TECHNICAL WORKERS
ACTUARIES	41	PROFESSIONAL & TECHNICAL WORKERS
AD SCHEDULERS,TV STATIONS	506	CLERICAL WORKERS
ADJUSTMENT CLERKS	413	CLERICAL WORKERS
AERONAUTICAL ENGINEERS	4	PROFESSIONAL & TECHNICAL WORKERS
AGRICULTURAL SCIENTISTS	23	PROFESSIONAL & TECHNICAL WORKERS
AIR FREIGHT AGENTS	481	CLERICAL WORKERS
AIR HAMMER OPERATORS	2064	LABORERS & UNSKILLED WORKERS
AIR TRAFFIC CONTROLLERS	138	PROFESSIONAL & TECHNICAL WORKERS
AIRCRAFT MECHANICS	637	CRAFTS & REPAIR WORKERS
AIRPLANE PILOTS	137	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER ASSEMBLERS	1081	OPERATIVES
ALL OTHER BINDERY WORKERS	706	CRAFTS & REPAIR WORKERS
ALL OTHER CLERICAL WORKERS	524	CLERICAL WORKERS
ALL OTHER DISPATCHERS	408	CLERICAL WORKERS
ALL OTHER ENGINEERS	21	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER FOOD SERVICE WORKERS	1971	SERVICE WORKERS
ALL OTHER GENERAL ASSEMBLERS	1075	OPERATIVES
ALL OTHER LABORERS & UNSKLD WKRS	2171	LABORERS & UNSKILLED WORKERS
ALL OTHER LIFE & PHYSICAL SCI	33	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER MANAGERS	330	MANAGERS & OFFICERS
ALL OTHER MATH SCIENTISTS	45	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER MECHANICS & REPAIRERS	697	CRAFTS & REPAIR WORKERS
ALL OTHER MED & DENT TECHNICIANS	134	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER OFFICE MACHINE OPS	379	CLERICAL WORKERS
ALL OTHER OPS & SEMISKILLED WKRS	1943	OPERATIVES
ALL OTHER PRECISION ASSEMBLERS	1066	OPERATIVES
ALL OTHER PROFESSIONAL WORKERS	303	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER SALES WORKERS	360	SALES WORKERS
ALL OTHER SCIENCE TECHNICIANS	80	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER SERVICE WORKERS	2060	SERVICE WORKERS
ALL OTHER SKILLED CRAFT WORKERS	892	CRAFTS & REPAIR WORKERS
ALL OTHER SOCIAL SCIENTISTS	166	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER TEACHERS	188	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER TECHNICIANS	147	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHER THERAPISTS	99	PROFESSIONAL & TECHNICAL WORKERS
ALL OTHR ENGINEERING TECHNICIANS	79	PROFESSIONAL & TECHNICAL WORKERS
AMBULANCE DRIVERS/AMB ATTENDANTS	1930	OPERATIVES
AMUSEMENT FACILITY CLERKS	402	CLERICAL WORKERS
ANIMAL CARETAKERS	2062	LABORERS & UNSKILLED WORKERS
ANNOUNCERS	227	PROFESSIONAL & TECHNICAL WORKERS
APPRAISERS	284	PROFESSIONAL & TECHNICAL WORKERS
APPRAISERS,REAL ESTATE	293	PROFESSIONAL & TECHNICAL WORKERS
ARCHITECTS	238	PROFESSIONAL & TECHNICAL WORKERS
ASPHALT RAKERS	2077	LABORERS & UNSKILLED WORKERS
ASSEMBLERS	1050	OPERATIVES
ASSEMBLERS,ALL OTHER	1081	OPERATIVES
ASSESSORS	294	PROFESSIONAL & TECHNICAL WORKERS
ATHLETES	193	PROFESSIONAL & TECHNICAL WORKERS
ATHLETIC TRAINERS	197	PROFESSIONAL & TECHNICAL WORKERS
AUTO BODY REPAIRERS	639	CRAFTS & REPAIR WORKERS
AUTO REPAIR SERVICE ESTIMATORS	642	CRAFTS & REPAIR WORKERS
AUTO SEAT COVER,TOP INSTALLERS	638	CRAFTS & REPAIR WORKERS
AUTOMOTIVE MECHANICS	641	CRAFTS & REPAIR WORKERS
AUXILIARY EQUIP OPS,POWERPLANT	830	CRAFTS & REPAIR WORKERS
BAGGAGE HANDLERS	2005	SERVICE WORKERS
BAGGERS,GROCERY	1044	OPERATIVES
BAKER HELPERS	1840	OPERATIVES
BARBERS	2006	SERVICE WORKERS
BARTENDERS	1955	SERVICE WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
BATCH PLANT OPERATORS	553	CRAFTS & REPAIR WORKERS
BELLHOPS,BAG PORTERS,DRKPRS,ETC	2003	SERVICE WORKERS
BENCH HANDS,JEWELRY	1797	OPERATIVES
BICYCLE REPAIRERS	677	CRAFTS & REPAIR WORKERS
BINDERY WORKERS,ALL OTHER	706	CRAFTS & REPAIR WORKERS
BINDERY WORKERS,ASSEMBLY	704	CRAFTS & REPAIR WORKERS
BINDERY WORKERS,STITCHING	705	CRAFTS & REPAIR WORKERS
BIO & AGRICUL SCI TECHS	48	PROFESSIONAL & TECHNICAL WORKERS
BIOLOGICAL SCIENTISTS	26	PROFESSIONAL & TECHNICAL WORKERS
BLDG INSPECTORS,FIRE INSURANCE	300	PROFESSIONAL & TECHNICAL WORKERS
BLOOD BANK TECH SPECIALISTS	109	PROFESSIONAL & TECHNICAL WORKERS
BLUE COLLAR WORKER SUPERVISORS	576	CRAFTS & REPAIR WORKERS
BOILERMAKERS	580	CRAFTS & REPAIR WORKERS
BOOKBINDERS,HAND	702	CRAFTS & REPAIR WORKERS
BOOKBINDERS,MACHINE	703	CRAFTS & REPAIR WORKERS
BOOKKEEPERS	389	CLERICAL WORKERS
BRAKERS,TRAIN	1927	OPERATIVES
BRICKLAYERS	534	CRAFTS & REPAIR WORKERS
BROADCAST TECHNICIANS	58	PROFESSIONAL & TECHNICAL WORKERS
BROKER'S FL REPS,SEC TRADRS,ETC	296	PROFESSIONAL & TECHNICAL WORKERS
BROKERAGE CLERKS	454	CLERICAL WORKERS
BUDGET ANALYSTS	235	PROFESSIONAL & TECHNICAL WORKERS
BUNDLERS,GARMENT MFG	1043	OPERATIVES
BUS DRIVERS	1914	OPERATIVES
BUS DRIVERS,SCHOOL	1915	OPERATIVES
BUYERS,RETAIL & WHOLESALE TRADE	248	PROFESSIONAL & TECHNICAL WORKERS
BUYING OCCUPATIONS	244	PROFESSIONAL & TECHNICAL WORKERS
CABINETMAKERS	779	CRAFTS & REPAIR WORKERS
CABLE INSTALLERS	767	CRAFTS & REPAIR WORKERS
CABLE SPLICERS	747	CRAFTS & REPAIR WORKERS
CAMERA OPERATORS,PRINTING	733	CRAFTS & REPAIR WORKERS
CAMERA REPAIRERS	678	CRAFTS & REPAIR WORKERS
CAMP DIRECTORS	273	PROFESSIONAL & TECHNICAL WORKERS
CANCELLATION CLERKS,INSURANCE	489	CLERICAL WORKERS
CANNERY WORKERS	2151	LABORERS & UNSKILLED WORKERS
CAR RENTAL CLERKS	395	CLERICAL WORKERS
CARPENTERS	529	CRAFTS & REPAIR WORKERS
CARPET CUTTERS,CARPET LAYERS	780	CRAFTS & REPAIR WORKERS
CASHIERS	390	CLERICAL WORKERS
CEILING TILE INSTALLRS,FLR LAYRS	573	CRAFTS & REPAIR WORKERS
CEMENT MASONS	539	CRAFTS & REPAIR WORKERS
CHAUFFEURS	1936	OPERATIVES
CHECKERS,FITTING ROOM	2034	SERVICE WORKERS
CHECKING CLERKS	414	CLERICAL WORKERS
CHECKROOM & LOCKER RM ATTNS	2000	SERVICE WORKERS
CHEMICAL ENGINEERS	5	PROFESSIONAL & TECHNICAL WORKERS
CHEMICAL OPERATORS	1594	OPERATIVES
CHEMICAL TECHNICIANS	49	PROFESSIONAL & TECHNICAL WORKERS
CHEMICAL-PROCESSING-EQUIP TENDERS	1595	OPERATIVES
CHEMISTS	28	PROFESSIONAL & TECHNICAL WORKERS
CHIEF CHEMICAL OPERATORS	1598	OPERATIVES
CHILD CARE ATTENDANTS	2009	SERVICE WORKERS
CHILD CARE WORKERS	2010	SERVICE WORKERS
CHIROPRACTORS	82	PROFESSIONAL & TECHNICAL WORKERS
CHOIRMASTERS	212	PROFESSIONAL & TECHNICAL WORKERS
CIRCULATION CLERKS	399	CLERICAL WORKERS
CIVIL ENGINEERING TECHNICIANS	78	PROFESSIONAL & TECHNICAL WORKERS
CIVIL ENGINEERS	7	PROFESSIONAL & TECHNICAL WORKERS
CLAIM ADJUSTERS	426	CLERICAL WORKERS
CLAIM EXAMINERS,INSURANCE	425	CLERICAL WORKERS
CLAIM EXAMINERS,PRPTY/CSLTY INS	299	PROFESSIONAL & TECHNICAL WORKERS
CLAIMS CLERKS	415	CLERICAL WORKERS
CLAIMS TAKERS,UNEMP BENEFITS	295	PROFESSIONAL & TECHNICAL WORKERS
CLASSIFIED AD CLERKS,NEWSPAPER	400	CLERICAL WORKERS
CLEANERS,VEHICLE	2122	LABORERS & UNSKILLED WORKERS
CLERGY	251	PROFESSIONAL & TECHNICAL WORKERS
CLERICAL SUPERVISORS	392	CLERICAL WORKERS
CLERICAL WORKERS	361	CLERICAL WORKERS
CLERICAL WORKERS,ALL OTHER	524	CLERICAL WORKERS
CNC TOOL PROGRAMERS	142	PROFESSIONAL & TECHNICAL WORKERS
COIL WINDERS	1394	OPERATIVES
COIN MACH OPS/CURRENCY SORTERS	487	CLERICAL WORKERS
COIN MACHINE SERVICERS,REPAIRERS	687	CRAFTS & REPAIR WORKERS
COLLECTORS	393	CLERICAL WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
COMBINATION WELDERS	955	OPERATIVES
COMMERCIAL ARTISTS	215	PROFESSIONAL & TECHNICAL WORKERS
COMMUNITY ORGANIZATION WORKERS	277	PROFESSIONAL & TECHNICAL WORKERS
COMPOSITORS & TYPESETTERS	708	CRAFTS & REPAIR WORKERS
COMPUTER OPERATORS	374	CLERICAL WORKERS
COMPUTER PROGRAMMERS	150	PROFESSIONAL & TECHNICAL WORKERS
COMPUTER REPAIRERS	643	CRAFTS & REPAIR WORKERS
COMPUTER SPECIALISTS	149	PROFESSIONAL & TECHNICAL WORKERS
CONDUCTORS, TRAIN	320	MANAGERS & OFFICERS
CONSTRUCTION CRAFTS WORKERS	527	CRAFTS & REPAIR WORKERS
CONSTRUCTION INSPECTORS	308	MANAGERS & OFFICERS
CONSTRUCTION LABORERS	2063	LABORERS & UNSKILLED WORKERS
CONTRIBUTION SOLICITORS	353	SALES WORKERS
CONVEYOR OPERATORS OR TENDERS	2098	LABORERS & UNSKILLED WORKERS
COOKS, INSTITUTIONAL	1960	SERVICE WORKERS
COOKS, RESTAURANT	1959	SERVICE WORKERS
COOKS, SHORT ORDER/SPEC FAST FD	1958	SERVICE WORKERS
COPY MARKERS, PRINTING	1901	OPERATIVES
CORRECTION OFFICERS &/OR JAILERS	2037	SERVICE WORKERS
CORRESPONDENCE CLERKS	491	CLERICAL WORKERS
CORROSION CONTROL FITTERS	890	CRAFTS & REPAIR WORKERS
CORRUGATED BOX MACHINE OPS	1543	OPERATIVES
COSMETOLOGISTS & HAIRSTYLISTS	2013	SERVICE WORKERS
COST ESTIMATORS, ENGINEERING	285	PROFESSIONAL & TECHNICAL WORKERS
COUNTER ATTNS, LUNCHRM, COF SH, ETC	1961	SERVICE WORKERS
COUNTER CLERKS	394	CLERICAL WORKERS
COURT CLERKS	462	CLERICAL WORKERS
CRAFTS & REPAIR WORKERS	526	CRAFTS & REPAIR WORKERS
CRANE, DERRICK, & HOIST OPERATORS	782	CRAFTS & REPAIR WORKERS
CRATING & MOVING ESTIMATORS	354	SALES WORKERS
CREDIT ANALYSTS	287	PROFESSIONAL & TECHNICAL WORKERS
CREDIT ANALYSTS, CHIEF	286	PROFESSIONAL & TECHNICAL WORKERS
CREDIT AUTHORIZERS	411	CLERICAL WORKERS
CREDIT CLERKS, BANK & INSUR	517	CLERICAL WORKERS
CREDIT REPORTERS	416	CLERICAL WORKERS
CREW SCHEDULERS, AIRLINES	452	CLERICAL WORKERS
CUSTOM CRATERS, LARGE PRODS	891	CRAFTS & REPAIR WORKERS
CUSTOMER SERV REPS, PRINT & PUBL	417	CLERICAL WORKERS
CUTTING MACHINE OPERATIVES	1101	OPERATIVES
CYTOTECHNOLOGISTS	106	PROFESSIONAL & TECHNICAL WORKERS
DANCE INSTRUCTORS	185	PROFESSIONAL & TECHNICAL WORKERS
DANCERS	199	PROFESSIONAL & TECHNICAL WORKERS
DATA-ENTRY KEYERS	377	CLERICAL WORKERS
DELIVERY & ROUTE WORKERS	1918	OPERATIVES
DENTAL ASSISTANTS	111	PROFESSIONAL & TECHNICAL WORKERS
DENTAL HYGIENISTS	112	PROFESSIONAL & TECHNICAL WORKERS
DENTAL LAB TECHNICIANS	786	CRAFTS & REPAIR WORKERS
DENTISTS	83	PROFESSIONAL & TECHNICAL WORKERS
DESIGNERS	201	PROFESSIONAL & TECHNICAL WORKERS
DESK CLERKS	397	CLERICAL WORKERS
DETECTIVES, PRIVATE	2040	SERVICE WORKERS
DIESEL MECHANICS	691	CRAFTS & REPAIR WORKERS
DIETETIC TECHNICIANS	130	PROFESSIONAL & TECHNICAL WORKERS
DIETITIANS & NUTRITIONISTS	84	PROFESSIONAL & TECHNICAL WORKERS
DINING RM ATTNS, BAR HELPERS, ETC	1956	SERVICE WORKERS
DIP PLATERS, NONELECTROLYTIC	939	OPERATIVES
DIRECTORS, RELIGIOUS EDUCATION	252	PROFESSIONAL & TECHNICAL WORKERS
DISPATCHERS	405	CLERICAL WORKERS
DISPATCHERS, AIRPLANE	406	CLERICAL WORKERS
DISPATCHERS, ALL OTHER	408	CLERICAL WORKERS
DISPATCHERS, POLICE, FIRE, AMBULNCE	407	CLERICAL WORKERS
DIVIDEND CLERKS	486	CLERICAL WORKERS
DRAFTERS	51	PROFESSIONAL & TECHNICAL WORKERS
DRILL PRESS/BORING MACHINE OPS	897	OPERATIVES
DRY WALL INSTALLERS & LATHERS	1146	OPERATIVES
DRYCLEANING MACHINE OPERATORS	1185	OPERATIVES
DUPLICATING MACHINE OPERATORS	376	CLERICAL WORKERS
ECONOMISTS	159	PROFESSIONAL & TECHNICAL WORKERS
EEG TECHNICIANS	126	PROFESSIONAL & TECHNICAL WORKERS
EKG TECHNICIANS	125	PROFESSIONAL & TECHNICAL WORKERS
ELECTRIC METER INSTALLERS, ETC	659	CRAFTS & REPAIR WORKERS
ELECTRIC MOTOR REPAIRERS	679	CRAFTS & REPAIR WORKERS
ELECTRICAL & ELECTRONIC ENGINEERS	8	PROFESSIONAL & TECHNICAL WORKERS
ELECTRICAL & ELECTRONIC TECHNCS	56	PROFESSIONAL & TECHNICAL WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
ELECTRICAL GENERATING PLANT OPS	755	CRAFTS & REPAIR WORKERS
ELECTRICIANS	545	CRAFTS & REPAIR WORKERS
ELECTRONIC MECHANICS	695	CRAFTS & REPAIR WORKERS
ELECTROPLATERS	938	OPERATIVES
ELEVATOR INSTALLERS/REPAIRERS	646	CRAFTS & REPAIR WORKERS
ELEVATOR OPERATORS	2011	SERVICE WORKERS
ELIGIBILITY WORKERS,WELFARE	391	CLERICAL WORKERS
EMBALMERS	139	PROFESSIONAL & TECHNICAL WORKERS
EMPLOYMENT INTERVIEWERS	269	PROFESSIONAL & TECHNICAL WORKERS
ENG & SCIENCE TECHNICIANS	47	PROFESSIONAL & TECHNICAL WORKERS
ENGINEERING EQUIPMT MECHANICS	647	CRAFTS & REPAIR WORKERS
ENGINEERING TECHNICIANS,ALL OTHER	79	PROFESSIONAL & TECHNICAL WORKERS
ENGINEERS	3	PROFESSIONAL & TECHNICAL WORKERS
ENGINEERS,ALL OTHER	21	PROFESSIONAL & TECHNICAL WORKERS
ENVELOPE MACHINE OPERATORS	1535	OPERATIVES
ESTIMATORS & DRAFTERS,UTILITIES	52	PROFESSIONAL & TECHNICAL WORKERS
ESTIMATORS & INVESTIGATORS	410	CLERICAL WORKERS
ESTIMATORS,PRINTING SERVICES	290	PROFESSIONAL & TECHNICAL WORKERS
ETCHERS & ENGRAVERS	729	CRAFTS & REPAIR WORKERS
EXTERMINATORS	1905	OPERATIVES
EXTRUDER OP HELPERS,RUB OR PLAS	1623	OPERATIVES
EXTRUDER OPS,RUBBER OR PLASTICS	1622	OPERATIVES
FABRICATORS,PLASTICS	1810	OPERATIVES
FAST FOOD WORKERS	1969	SERVICE WORKERS
FENCE ERECTORS	2070	LABORERS & UNSKILLED WORKERS
FILE CLERKS	421	CLERICAL WORKERS
FILERS,GRINDERS,BUFFERS,CHIPPER	1158	OPERATIVES
FILM EDITORS	205	PROFESSIONAL & TECHNICAL WORKERS
FINANCIAL & RELATED CLERKS	450	CLERICAL WORKERS
FINANCIAL ANALYSTS	158	PROFESSIONAL & TECHNICAL WORKERS
FINISHERS,PLASTICS	1811	OPERATIVES
FIRE FIGHTERS	2029	SERVICE WORKERS
FIRE INSPECTORS	2030	SERVICE WORKERS
FIRE OFFICERS	2031	SERVICE WORKERS
FITTERS,PIPELAYING	563	CRAFTS & REPAIR WORKERS
FITTERS,STRUCTURAL METAL	570	CRAFTS & REPAIR WORKERS
FLIGHT ATTENDANTS	1982	SERVICE WORKERS
FLIGHT ENGINEERS	140	PROFESSIONAL & TECHNICAL WORKERS
FOLDERS,LAUNDRY	1197	OPERATIVES
FOOD SERVICE WORKERS	1953	SERVICE WORKERS
FOOD SERVICE WORKERS,ALL OTHER	1971	SERVICE WORKERS
FOOD SHAPERS,BAKING INDUSTRY	776	CRAFTS & REPAIR WORKERS
FORESTERS & CONSERV SCIENTISTS	254	PROFESSIONAL & TECHNICAL WORKERS
FORMING MACH MAINTAINERS,GLASS	885	CRAFTS & REPAIR WORKERS
FORMING MACH OPS,GLASSWARE	1664	OPERATIVES
FREIGHT & MATERIAL HANDLERS	2079	LABORERS & UNSKILLED WORKERS
FURNACE OPERATORS,CUPOLA TENDERS	920	OPERATIVES
FURNITURE ASSEMBLERS & INSTALLRS	1919	OPERATIVES
FURNITURE FINISHERS	787	CRAFTS & REPAIR WORKERS
GAGERS,PETROLEUM REFINING	1224	OPERATIVES
GAME OPS,RIDE OPS,CONCESS WKRS	1985	SERVICE WORKERS
GARDENERS & GROUNDSKEEPERS	2103	LABORERS & UNSKILLED WORKERS
GAS & ELEC APPLIANCE REPAIRERS	662	CRAFTS & REPAIR WORKERS
GAS STATION ATTENDANTS	1176	OPERATIVES
GENERAL ASSEMBLERS,ALL OTHER	1075	OPERATIVES
GENERAL CLERKS,OFFICE	495	CLERICAL WORKERS
GENERAL ELECTROMECH ASSEMBLERS	1070	OPERATIVES
GENERAL ELECTRONICS ASSEMBLERS	1071	OPERATIVES
GENERAL INSTRUMENT ASSEMBLERS	1069	OPERATIVES
GENERAL MACHINE ASSEMBLERS	1068	OPERATIVES
GEOLOGISTS & GEOPHYSICISTS	29	PROFESSIONAL & TECHNICAL WORKERS
GLAZIERS	791	CRAFTS & REPAIR WORKERS
GOV EXECUTIVES & LEGISLATORS	310	MANAGERS & OFFICERS
GRADUATE ASSISTANTS	173	PROFESSIONAL & TECHNICAL WORKERS
GRINDING/ABRADING MACH OPS,METAL	923	OPERATIVES
GROUND WORKERS, UTILITIES	2071	LABORERS & UNSKILLED WORKERS
GROUP RECREATION WORKERS	272	PROFESSIONAL & TECHNICAL WORKERS
GUARDS & DOORKEEPERS	2033	SERVICE WORKERS
GUIDES,SIGHTSEEING	2001	SERVICE WORKERS
HAND SEWERS	1330	OPERATIVES
HEALTH SERVICE WORKERS	1972	SERVICE WORKERS
HEAT TREATERS,ANNEALERS,ETC	581	CRAFTS & REPAIR WORKERS
HEAVY EQUIPMENT OPERATORS	552	CRAFTS & REPAIR WORKERS
HELPERS,TRADES	2150	LABORERS & UNSKILLED WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
HIGHWAY MAINTENANCE WORKERS	2076	LABORERS & UNSKILLED WORKERS
HOSTS/HOSTESSES,REST,LNGE,COF SH	1964	SERVICE WORKERS
HOUSEHOLD APPLIANCE INSTALLERS	663	CRAFTS & REPAIR WORKERS
HOUSEKEEPERS,HOTEL & MOTEL	1999	SERVICE WORKERS
INDUSTRIAL BAKERS	777	CRAFTS & REPAIR WORKERS
INDUSTRIAL BUTCHERS	1204	OPERATIVES
INDUSTRIAL ENGINEERING TECHS	59	PROFESSIONAL & TECHNICAL WORKERS
INDUSTRIAL ENGINEERS	9	PROFESSIONAL & TECHNICAL WORKERS
INDUSTRIAL TRUCK OPERATORS	1921	OPERATIVES
INFORMATION CLERKS	442	CLERICAL WORKERS
INHALATION THERAPISTS	98	PROFESSIONAL & TECHNICAL WORKERS
INSTRUMENT REPAIRERS	690	CRAFTS & REPAIR WORKERS
INSULATION INSTALLERS	1049	OPERATIVES
INSURANCE CHECKERS	463	CLERICAL WORKERS
INSURANCE CLERKS,MEDICAL	521	CLERICAL WORKERS
INVESTIGATORS,INSURANCE	292	PROFESSIONAL & TECHNICAL WORKERS
JANITORS,PORTERS,& CLEANERS	1946	SERVICE WORKERS
JEWELERS & SILVERSMITHS	806	CRAFTS & REPAIR WORKERS
JUDGES	257	PROFESSIONAL & TECHNICAL WORKERS
KITCHEN HELPERS	1968	SERVICE WORKERS
LABORERS & UNSKILLED WORKERS	2061	LABORERS & UNSKILLED WORKERS
LABORERS & UNSKLD WKRS,ALL OTHER	2171	LABORERS & UNSKILLED WORKERS
LATHE MACH OPERATORS,METAL	932	OPERATIVES
LAUNDRY & DRYCLEANING OCCUPATIONS	1179	OPERATIVES
LAUNDRY MACHINE MECHANICS	685	CRAFTS & REPAIR WORKERS
LAUNDRY OPERATORS,SM ESTABLISH	1188	OPERATIVES
LAW CLERKS	260	PROFESSIONAL & TECHNICAL WORKERS
LAWYERS	261	PROFESSIONAL & TECHNICAL WORKERS
LAYOUT MARKERS,METAL	597	CRAFTS & REPAIR WORKERS
LEGAL OCCUPATIONS	259	PROFESSIONAL & TECHNICAL WORKERS
LENS GRINDERS	819	CRAFTS & REPAIR WORKERS
LETTER PRESS OPERATORS	741	CRAFTS & REPAIR WORKERS
LIBRARIANS	264	PROFESSIONAL & TECHNICAL WORKERS
LIBRARY ASSISTANTS	427	CLERICAL WORKERS
LICENSED VOCATIONAL NURSES	129	PROFESSIONAL & TECHNICAL WORKERS
LIFE & PHYSICAL SCI,ALL OTHER	36	PROFESSIONAL & TECHNICAL WORKERS
LIFE & PHYSICAL SCIENTISTS	22	PROFESSIONAL & TECHNICAL WORKERS
LIFEGUARDS	1988	SERVICE WORKERS
LINE INSTALLERS,REPAIRERS	748	CRAFTS & REPAIR WORKERS
LINE SERVICE ATTENDS,AIRCRAFT	2157	LABORERS & UNSKILLED WORKERS
LOADERS,TANK CARS &/OR TRUCKS	2097	LABORERS & UNSKILLED WORKERS
LOAN CLOSERS	485	CLERICAL WORKERS
LOAN INS CLERKS,BANKING	520	CLERICAL WORKERS
LOCKSMITHS	686	CRAFTS & REPAIR WORKERS
LOCOMOTIVE ENGINEERS	753	CRAFTS & REPAIR WORKERS
MACHINE TOOL OPERATORS,COMBO	942	OPERATIVES
MACHINE TOOL SETTERS,METALWRKING	590	CRAFTS & REPAIR WORKERS
MACHINISTS	598	CRAFTS & REPAIR WORKERS
MAIL CLERKS,EX POST OFFICE	431	CLERICAL WORKERS
MAINTENANCE MECHANICS	651	CRAFTS & REPAIR WORKERS
MAINTENANCE REPAIRERS,GEN UTIL	884	CRAFTS & REPAIR WORKERS
MANAGERS & OFFICIALS	304	MANAGERS & OFFICERS
MANAGERS,ALL OTHER	330	MANAGERS & OFFICIALS
MANAGERS,AUTO PARTS DEPT	328	MANAGERS & OFFICERS
MANAGERS,AUTO SERVICE DEPT	327	MANAGERS & OFFICERS
MANAGERS,MERCHANDISE	306	MANAGERS & OFFICERS
MANAGERS,REST'RANT,COFFEE SH,ETC	321	MANAGERS & OFFICERS
MANAGERS,STORE	326	MANAGERS & OFFICERS
MANIPULATORS,TABLE/BED OPS	621	CRAFTS & REPAIR WORKERS
MANUAL ARTS,MUSIC,REC THERAPISTS	92	PROFESSIONAL & TECHNICAL WORKERS
MARGIN CLERKS,BROKERAGE HOUSE	456	CLERICAL WORKERS
MARINE MECHANICS/REPAIRERS	650	CRAFTS & REPAIR WORKERS
MARKERS,LAUNDRY	1180	OPERATIVES
MARKET RESEARCH ANALYSTS	161	PROFESSIONAL & TECHNICAL WORKERS
MARKING CLERKS,TRADE	509	CLERICAL WORKERS
MATH SCIENTISTS,ALL OTHER	45	PROFESSIONAL & TECHNICAL WORKERS
MATHEMATICAL SPECIALISTS	40	PROFESSIONAL & TECHNICAL WORKERS
MATHEMATICIANS & STATISTICIANS	44	PROFESSIONAL & TECHNICAL WORKERS
MECHAN ENGINEERING TECHNICIANS	61	PROFESSIONAL & TECHNICAL WORKERS
MECHANICAL ENGINEERS	11	PROFESSIONAL & TECHNICAL WORKERS
MECHANICS & REPAIRERS,ALL OTHER	697	CRAFTS & REPAIR WORKERS
MECHANICS,REPAIRERS & INSTALLERS	633	CRAFTS & REPAIR WORKERS
MED & DENT TECHNICIANS,ALL OTHER	134	PROFESSIONAL & TECHNICAL WORKERS
MEDIA BUYERS	247	PROFESSIONAL & TECHNICAL WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
MEDIA CLERKS/ESTIMATORS/BILLERS	493	CLERICAL WORKERS
MEDICAL ASSISTANTS	1979	SERVICE WORKERS
MEDICAL LAB ASSISTANTS	108	PROFESSIONAL & TECHNICAL WORKERS
MEDICAL LAB TECHNOLOGISTS	103	PROFESSIONAL & TECHNICAL WORKERS
MEDICAL PRACTITIONERS	81	PROFESSIONAL & TECHNICAL WORKERS
MEDICAL RECORD LIBRARIANS	113	PROFESSIONAL & TECHNICAL WORKERS
MEDICAL TECHNICIANS	101	PROFESSIONAL & TECHNICAL WORKERS
MENDERS	1322	OPERATIVES
MERCHAN DISPLAYERS & WIND TRMRS	785	CRAFTS & REPAIR WORKERS
MERCHANDISE EXCHANGE CLERKS	504	CLERICAL WORKERS
MESSENGERS	434	CLERICAL WORKERS
METAL CRAFTS WORKERS	578	CRAFTS & REPAIR WORKERS
METAL FABRICATORS	568	CRAFTS & REPAIR WORKERS
METAL MOLD MAKERS,REPAIRERS	607	CRAFTS & REPAIR WORKERS
METALLURGISTS & MET ENGINEERS	13	PROFESSIONAL & TECHNICAL WORKERS
METER READERS	435	CLERICAL WORKERS
MILLERS,FOOD PROCESSING	816	CRAFTS & REPAIR WORKERS
MILLING/PLANING MACHINE OPERATRS	933	OPERATIVES
MILLWRIGHTS	599	CRAFTS & REPAIR WORKERS
MINING ENGINEERS	14	PROFESSIONAL & TECHNICAL WORKERS
MISC CLERICAL WORKERS	484	CLERICAL WORKERS
MISC FOOD PROCESSING OPERATIVES	1415	OPERATIVES
MISC PRIM METAL OPERATIVES	1701	OPERATIVES
MISCELLANEOUS CRAFTS WORKERS	774	CRAFTS & REPAIR WORKERS
MISCELLANEOUS LABORERS	2127	LABORERS & UNSKILLED WORKERS
MISCELLANEOUS TECHNICIANS	136	PROFESSIONAL & TECHNICAL WORKERS
MIXERS/BLENDERS,CHEMICALS	1267	OPERATIVES
MIXERS,FOOD	1268	OPERATIVES
MOLDERS,BENCH & FLOOR	603	CRAFTS & REPAIR WORKERS
MOLDERS,MACHINE(METAL)	604	CRAFTS & REPAIR WORKERS
MOLDING MACHINE OPERATORS,PLASTICS	1636	OPERATIVES
MORTGAGE CLOSING CLERKS	518	CLERICAL WORKERS
MOTION PICTURE PROJECTIONISTS	817	CRAFTS & REPAIR WORKERS
MUSEUM CURATORS	243	PROFESSIONAL & TECHNICAL WORKERS
MUSEUM TECHNICIANS,RESTORERS	144	PROFESSIONAL & TECHNICAL WORKERS
MUSICAL INSTRUMENTS REPAIRERS	889	CRAFTS & REPAIR WORKERS
MUSICIANS,INSTRUMENTAL	210	PROFESSIONAL & TECHNICAL WORKERS
NEW ACCOUNTS TELLERS	384	CLERICAL WORKERS
NUCLEAR ENGINEERS	19	PROFESSIONAL & TECHNICAL WORKERS
NURSE ASSISTANTS	1976	SERVICE WORKERS
OCCUPATIONAL THERAPISTS	91	PROFESSIONAL & TECHNICAL WORKERS
OCCUPATIONAL THERAPY AIDES	1973	SERVICE WORKERS
OFFICE MACHINE OPERATORS	366	CLERICAL WORKERS
OFFICE MACHINE OPS,ALL OTHER	379	CLERICAL WORKERS
OFFICE MACHINE SERVICERS	668	CRAFTS & REPAIR WORKERS
OFFSET LITHOGRAPHIC PRESS OPS	737	CRAFTS & REPAIR WORKERS
OPERATIVES	894	OPERATIVES
OPS & SEMISKILLED WKRS,ALL OTHER	1943	OPERATIVES
OPTICIANS,DISP & OPTIC MECHS	820	CRAFTS & REPAIR WORKERS
OPTOMETRISTS	86	PROFESSIONAL & TECHNICAL WORKERS
ORDER CLERKS	398	CLERICAL WORKERS
ORDER FILLERS	2118	LABORERS & UNSKILLED WORKERS
ORTHOPEDIC DEVICE MAKERS	881	CRAFTS & REPAIR WORKERS
OTHER CLERICAL WORKERS	382	CLERICAL WORKERS
OTHER OPERATIVES EX TRANS	1048	OPERATIVES
OTHER PROFESSIONAL WORKERS	232	PROFESSIONAL & TECHNICAL WORKERS
PACKAGING OCCUPATIONS	1029	OPERATIVES
PAINT PRODUCTION WKRS	1261	OPERATIVES
PAINTERS	556	CRAFTS & REPAIR WORKERS
PAINTERS,AIRCRAFT	1276	OPERATIVES
PAINTERS,ARTISTIC	216	PROFESSIONAL & TECHNICAL WORKERS
PAINTERS,AUTOMOTIVE	1272	OPERATIVES
PAINTERS,MANUFACTURED PRODUCTS	1271	OPERATIVES
PAINTERS,PRODUCTION	1275	OPERATIVES
PANTRY,SANDWICH,&/OR COFF MAKERS	1970	SERVICE WORKERS
PAPERHANGERS	557	CRAFTS & REPAIR WORKERS
PARALEGAL PERSONNEL	262	PROFESSIONAL & TECHNICAL WORKERS
PARAMEDICS	127	PROFESSIONAL & TECHNICAL WORKERS
PARKING ENFORCEMENT OFFICERS	2046	SERVICE WORKERS
PARKING LOT ATTENDANTS	1926	OPERATIVES
PAYROLL/TIMEKEEPING CLERKS	436	CLERICAL WORKERS
PERIPHERAL EDP EQPT OPERATORS	375	CLERICAL WORKERS
PERSONAL SERVICE WORKERS	1981	SERVICE WORKERS
PERSONNEL CLERKS	422	CLERICAL WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
PERSONNEL, LABOR REL SPECIALISTS	268	PROFESSIONAL & TECHNICAL WORKERS
PETROLEUM ENGINEERS	15	PROFESSIONAL & TECHNICAL WORKERS
PHARMACISTS	87	PROFESSIONAL & TECHNICAL WORKERS
PHARMACY HELPERS	128	PROFESSIONAL & TECHNICAL WORKERS
PHOTO PROCESS WORKERS	1277	OPERATIVES
PHOTOENGRAVERS	734	CRAFTS & REPAIR WORKERS
PHOTOGRAPHERS	224	PROFESSIONAL & TECHNICAL WORKERS
PHYSICAL SCIENCE TECHNICIANS	74	PROFESSIONAL & TECHNICAL WORKERS
PHYSICAL THERAPISTS	94	PROFESSIONAL & TECHNICAL WORKERS
PHYSICAL THERAPY TECHNICIANS	131	PROFESSIONAL & TECHNICAL WORKERS
PHYSICIANS & SURGEONS	88	PROFESSIONAL & TECHNICAL WORKERS
PHYSICIANS ASSISTANTS	133	PROFESSIONAL & TECHNICAL WORKERS
PHYSICISTS	31	PROFESSIONAL & TECHNICAL WORKERS
PIPELAYERS	2072	LABORERS & UNSKILLED WORKERS
PIPELINE OPERATORS	832	CRAFTS & REPAIR WORKERS
PLASTERERS	559	CRAFTS & REPAIR WORKERS
PLATEMAKERS	738	CRAFTS & REPAIR WORKERS
PLATER HELPERS	1821	OPERATIVES
PLUMBERS & PIPEFITTERS	564	CRAFTS & REPAIR WORKERS
PODIATRISTS	89	PROFESSIONAL & TECHNICAL WORKERS
POLICE DETECTIVES	2044	SERVICE WORKERS
POLICE OFFICERS	2043	SERVICE WORKERS
POLICE PATROLMEN/WOMEN	2045	SERVICE WORKERS
POLICY CHANGE CLERKS, INS	498	CLERICAL WORKERS
POSTAL MAIL CARRIERS	428	CLERICAL WORKERS
POSTAL SERVICE CLERKS	437	CLERICAL WORKERS
POSTMASTERS & MAIL SUPERINTS	311	MANAGERS & OFFICERS
POURERS, METAL	919	OPERATIVES
POWER BRAKE, BENDING MACH OPS, MET	950	OPERATIVES
POWERHOUSE MECHANICS	648	CRAFTS & REPAIR WORKERS
PRECISION ASSEMBLERS, ALL OTHER	1066	OPERATIVES
PRECISION ELECTROMECH ASSEMBLERS	1064	OPERATIVES
PRECISION ELECTRONICS ASSEMBLERS	1065	OPERATIVES
PRECISION MACHINE ASSEMBLERS	1062	OPERATIVES
PRESS ASSISTANTS & FEEDERS	1900	OPERATIVES
PRESS OPERATORS, PLATE PRINTERS	736	CRAFTS & REPAIR WORKERS
PRESSERS, CLOTHING	1090	OPERATIVES
PRINTING TRADES CRAFTS WORKERS	698	CRAFTS & REPAIR WORKERS
PROCUREMENT CLERKS	465	CLERICAL WORKERS
PRODUCT TESTERS, NONTECHNICAL	801	CRAFTS & REPAIR WORKERS
PRODUCTION CLERKS	419	CLERICAL WORKERS
PRODUCTION INSPECTORS	799	CRAFTS & REPAIR WORKERS
PRODUCTION PACKAGERS	1042	OPERATIVES
PRODUCTION-LINE ASSEMBLERS	1076	OPERATIVES
PRODUCTION-LINE WELDERS	956	OPERATIVES
PROFESSIONAL & TECHNICAL WORKERS	2	PROFESSIONAL & TECHNICAL WORKERS
PROFESSIONAL WORKERS, ALL OTHER	303	PROFESSIONAL & TECHNICAL WORKERS
PROOF MACHINE OPERATORS	369	CLERICAL WORKERS
PROOFREADERS, COMPOSED COPY	439	CLERICAL WORKERS
PROSTHETISTS, ORTHOTISTS	124	PROFESSIONAL & TECHNICAL WORKERS
PROTECTIVE SERVICE WORKERS	2023	SERVICE WORKERS
PROTECTIVE SIGNAL INST/REPAIRERS	689	CRAFTS & REPAIR WORKERS
PROTECTIVE SIGNAL OPERATORS	510	CLERICAL WORKERS
PSYCHIATRIC AIDES	1977	SERVICE WORKERS
PSYCHOLOGISTS	163	PROFESSIONAL & TECHNICAL WORKERS
PUBLIC ADM INSPECTORS, EX CONST	309	MANAGERS & OFFICERS
PUBLIC ADMINISTRATORS & INSPECTORS	307	MANAGERS & OFFICERS
PUBLIC RELATIONS SPECIALISTS	225	PROFESSIONAL & TECHNICAL WORKERS
PUMP STAT OPERATORS, WATERWORKS	840	CRAFTS & REPAIR WORKERS
PUNCH PRESS OPERATORS, METAL	948	OPERATIVES
PUNCH PRESS SETTERS, METAL	593	CRAFTS & REPAIR WORKERS
PURCHASE & SALES CLERKS, SECURITY	499	CLERICAL WORKERS
PURCHASING AGENTS & BUYERS	245	PROFESSIONAL & TECHNICAL WORKERS
RADIO & TV SERVICERS & REPAIRERS	669	CRAFTS & REPAIR WORKERS
RADIO OPERATORS	141	PROFESSIONAL & TECHNICAL WORKERS
RADIOLOGIC TECHS & NUC MED TECHS	118	PROFESSIONAL & TECHNICAL WORKERS
RAILROAD CAR REPAIRERS	674	CRAFTS & REPAIR WORKERS
RATE CLERKS, FREIGHT	514	CLERICAL WORKERS
RATERS, INSURANCE	457	CLERICAL WORKERS
REAL ESTATE BROKERS	342	SALES WORKERS
REAL ESTATE CLERKS	500	CLERICAL WORKERS
RECEPTIONISTS	443	CLERICAL WORKERS
RECEPTIONISTS & RELATED CLERKS	441	CLERICAL WORKERS
RECREATION FACILITY ATTENDANTS	1984	SERVICE WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
REFINERY OPERATOR HELPERS,PETROL	1879	OPERATIVES
REFINERY OPERATORS,PETROLEUM	1792	OPERATIVES
REFRIG MECHANICS,A/C MECHANICS	634	CRAFTS & REPAIR WORKERS
REFUSE COLLECTORS	2101	LABORERS & UNSKILLED WORKERS
REGISTERED NURSES	85	PROFESSIONAL & TECHNICAL WORKERS
REINFORCING-IRON WORKERS	2073	LABORERS & UNSKILLED WORKERS
RENTAL CAR DELIVERY WORKERS	1935	OPERATIVES
REPORTERS & CORRESPONDENTS	206	PROFESSIONAL & TECHNICAL WORKERS
RESERVATION AGENTS	480	CLERICAL WORKERS
RETAIL BAKERS	1954	SERVICE WORKERS
RETAIL BUTCHERS	1962	SERVICE WORKERS
RIGGERS,CARGO MOVING	2149	LABORERS & UNSKILLED WORKERS
ROOFERS	566	CRAFTS & REPAIR WORKERS
RUG CLEANERS,HAND	1191	OPERATIVES
SAFE DEPOSIT CLERKS	501	CLERICAL WORKERS
SAFETY INSPECTORS	283	PROFESSIONAL & TECHNICAL WORKERS
SAILORS & DECKHANDS	1298	OPERATIVES
SALES AGENTS,SALES REPS,INSURANCE	338	SALES WORKERS
SALES AGENTS,SALES REPS,REAL EST	343	SALES WORKERS
SALES CLERK SUPERVISORS	355	SALES WORKERS
SALES CLERKS	351	SALES WORKERS
SALES REPS.,Nontechnical	356	SALES WORKERS
SALES REPS.,TECHNICAL	357	SALES WORKERS
SALES WORKERS	331	SALES WORKERS
SALES WORKERS,ALL OTHER	360	SALES WORKERS
SAMPLE MAKERS,GARMENT MFG	856	CRAFTS & REPAIR WORKERS
SAWYERS	1302	OPERATIVES
SCHOOL CROSSING GUARDS	2026	SERVICE WORKERS
SCIENCE TECHNICIANS,ALL OTHER	80	PROFESSIONAL & TECHNICAL WORKERS
SCREEN/STENCIL PRINTERS/SETTERS	1745	OPERATIVES
SECRETARIES	363	CLERICAL WORKERS
SECRETARIES & TYPISTS	362	CLERICAL WORKERS
SECURITIES CASHIERS,EXCHANGE	497	CLERICAL WORKERS
SELECTORS,GLASSWARE	1032	OPERATIVES
SEMISKILLED METALWORKING OCCUPATIONS	895	OPERATIVES
SEPTIC TANK SERVICERS,ETC	2159	LABORERS & UNSKILLED WORKERS
SERVICE REPS,UTILITIES	492	CLERICAL WORKERS
SERVICE WORKERS	1944	SERVICE WORKERS
SERVICE WORKERS,ALL OTHER	2060	SERVICE WORKERS
SERVICES ESTABLISHMENT CLERKS	396	CLERICAL WORKERS
SETTERS,BINDERY MACHINES	700	CRAFTS & REPAIR WORKERS
SEWAGE PLANT OPERATORS	836	CRAFTS & REPAIR WORKERS
SEWERS	1319	OPERATIVES
SEWING MACH OPS,REG EQMT,GARMENT	1335	OPERATIVES
SEWING MACH OPS,REG EQMT,NONGAR	1323	OPERATIVES
SEWING MACH OPS,SPEC EQMT,GAR	1334	OPERATIVES
SEWING MACH OPS,SPEC EQMT,NONGAR	1332	OPERATIVES
SHEAR & SLITTER SETTERS	594	CRAFTS & REPAIR WORKERS
SHEET METAL WORKERS	627	CRAFTS & REPAIR WORKERS
SHERIFFS & BAILIFFS	2047	SERVICE WORKERS
SHIP ENGINEERS	847	CRAFTS & REPAIR WORKERS
SHIP RIGGERS	877	CRAFTS & REPAIR WORKERS
SHIPFITTERS	821	CRAFTS & REPAIR WORKERS
SHIPPING & RECEIVING CLERKS	447	CLERICAL WORKERS
SHIPPING PACKERS	448	CLERICAL WORKERS
SHIPS' OFFICERS	318	MANAGERS & OFFICERS
SHOE REPAIRERS	824	CRAFTS & REPAIR WORKERS
SINGERS	211	PROFESSIONAL & TECHNICAL WORKERS
SKILLED CRAFT WORKERS,ALL OTHER	892	CRAFTS & REPAIR WORKERS
SOCIAL SCIENTISTS	156	PROFESSIONAL & TECHNICAL WORKERS
SOCIAL SCIENTISTS,ALL OTHER	166	PROFESSIONAL & TECHNICAL WORKERS
SOCIAL SERVICE AIDES	2022	SERVICE WORKERS
SOCIAL SERVICES WORKERS	275	PROFESSIONAL & TECHNICAL WORKERS
SOUND RECORDING & REPRO TECHN	54	PROFESSIONAL & TECHNICAL WORKERS
SPECIAL AGENTS,INSURANCE	297	PROFESSIONAL & TECHNICAL WORKERS
SPEECH & HEARING CLINICIANS,ETC	93	PROFESSIONAL & TECHNICAL WORKERS
SPORTS INSTRUCTORS	195	PROFESSIONAL & TECHNICAL WORKERS
SPOTTERS,DRYCLEANING	1181	OPERATIVES
STATEMENT CLERKS,BANKING	503	CLERICAL WORKERS
STATION ENGINEERS,PIPE LINE	845	CRAFTS & REPAIR WORKERS
STATIONARY BOILER FIRERS	1371	OPERATIVES
STATIONARY ENGINEERING OCCUPATIONS	827	CRAFTS & REPAIR WORKERS
STATIONARY ENGINEERS	837	CRAFTS & REPAIR WORKERS
STATISTICAL CLERKS	458	CLERICAL WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
STATISTICIANS	44	PROFESSIONAL & TECHNICAL WORKERS
STEAM GENERATING PLANT OPS	828	CRAFTS & REPAIR WORKERS
STENOGRAPHERS	364	CLERICAL WORKERS
STOCK & BOND SALES AGENTS	344	SALES WORKERS
STOCK CLERKS, SALES FLOOR	2119	LABORERS & UNSKILLED WORKERS
STOCK CLERKS, STOCKRM, WAREHS, ETC	466	CLERICAL WORKERS
STOCK HANDLERS	2117	LABORERS & UNSKILLED WORKERS
STONE MASONS	535	CRAFTS & REPAIR WORKERS
STORE DETECTIVES	2041	SERVICE WORKERS
STREETCAR OPERATORS	1916	OPERATIVES
STRIPPERS, PRINTING	732	CRAFTS & REPAIR WORKERS
STRUCTURAL STEEL WORKERS	567	CRAFTS & REPAIR WORKERS
SUPERVISORS, SERVICE WORKERS	2059	SERVICE WORKERS
SURGICAL TECHNICIANS	121	PROFESSIONAL & TECHNICAL WORKERS
SURVEY WORKERS	409	CLERICAL WORKERS
SURVEYOR HELPERS	1089	OPERATIVES
SURVEYORS	62	PROFESSIONAL & TECHNICAL WORKERS
SWITCHBD OPS/RECEPTIONISTS	444	CLERICAL WORKERS
SWITCHBOARD OPERATORS	472	CLERICAL WORKERS
SYSTEMS ANALYSTS, EDP	153	PROFESSIONAL & TECHNICAL WORKERS
TAILORS	853	CRAFTS & REPAIR WORKERS
TAX EXAMINERS, COLLECTRS, REV AGTS	236	PROFESSIONAL & TECHNICAL WORKERS
TAX PREPARERS	237	PROFESSIONAL & TECHNICAL WORKERS
TAXI DRIVERS	1933	OPERATIVES
TEACHERS	168	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS AIDES/EDUC ASSISTANTS	468	CLERICAL WORKERS
TEACHERS, ADULT EDUCATION	169	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS, ALL OTHER	188	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS, COLLEGE	172	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS, ELEMENTARY	180	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS, PRESCHOOL OR KINDERGRTN	182	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS, SECONDARY	183	PROFESSIONAL & TECHNICAL WORKERS
TEACHERS, VOCATIONAL EDUCATION	171	PROFESSIONAL & TECHNICAL WORKERS
TECHNICAL ASSISTANTS, LIBRARY	148	PROFESSIONAL & TECHNICAL WORKERS
TECHNICIANS, ALL OTHER	147	PROFESSIONAL & TECHNICAL WORKERS
TELEGRAPH OPERATORS	470	CLERICAL WORKERS
TELEPHONE EQUIP INSTALLERS	762	CRAFTS & REPAIR WORKERS
TELEPHONE OPERATORS	473	CLERICAL WORKERS
TELEPHONE REPAIR CLERKS	770	CRAFTS & REPAIR WORKERS
TELEPHONE REPAIRERS	760	CRAFTS & REPAIR WORKERS
TELEPHONE SWITCHING EQUIP RPRS	771	CRAFTS & REPAIR WORKERS
TELEPHONE SWITCHING EQUIP WIRERS	768	CRAFTS & REPAIR WORKERS
TELEVISION CAMERA OPERATORS	221	PROFESSIONAL & TECHNICAL WORKERS
TELLERS	385	CLERICAL WORKERS
TERMITE TREATER HELPERS	1909	OPERATIVES
TERMITE TREATERS	1908	OPERATIVES
THERAPISTS, ALL OTHER	99	PROFESSIONAL & TECHNICAL WORKERS
THREAD TRIMMERS, GARMET MFG	1883	OPERATIVES
TICKET AGENTS	482	CLERICAL WORKERS
TILE SETTERS	572	CRAFTS & REPAIR WORKERS
TIRE CHANGERS	1177	OPERATIVES
TIRE FABRICATORS, REPAIRERS	1788	OPERATIVES
TITLE EXAMINERS & ABSTRACTORS	288	PROFESSIONAL & TECHNICAL WORKERS
TITLE SEARCHERS	505	CLERICAL WORKERS
TOOL & DIE MAKERS	629	CRAFTS & REPAIR WORKERS
TOTAL, ALL OCCUPATIONS	1	PROFESSIONAL & TECHNICAL WORKERS
TOWN CLERKS	516	CLERICAL WORKERS
TRADE RECORDERS, STOCK EXCHANGE	455	CLERICAL WORKERS
TRAFFIC AGENTS	479	CLERICAL WORKERS
TRAFFIC ENGINEERS	18	PROFESSIONAL & TECHNICAL WORKERS
TRANS, PUB UTIL CRAFTS WORKERS	745	CRAFTS & REPAIR WORKERS
TRANSFER CLERKS, SECURITIES	507	CLERICAL WORKERS
TRANSIT CLERKS, BANKING	370	CLERICAL WORKERS
TRANSPORTATION EQUIP OPERATIVES	1911	OPERATIVES
TRANSPORTATION SALES CLERKS	477	CLERICAL WORKERS
TRAVEL AGENTS	298	PROFESSIONAL & TECHNICAL WORKERS
TROUBLE SHOOTERS, POWER LINE	749	CRAFTS & REPAIR WORKERS
TRUCK DRIVER HELPERS	2152	LABORERS & UNSKILLED WORKERS
TRUCK DRIVERS	1938	OPERATIVES
TUMBLER OPERATORS	1184	OPERATIVES
TYPISTS	365	CLERICAL WORKERS
UNDERWRITERS	291	PROFESSIONAL & TECHNICAL WORKERS
UPHOLSTERERS	862	CRAFTS & REPAIR WORKERS
URBAN AND REGIONAL PLANNERS	165	PROFESSIONAL & TECHNICAL WORKERS

OCCUPATION	LINE NUMBER	MAJOR OCCUPATIONAL GROUP
USHERS, LOBBY ATTNs, TICKET TAKERS	2021	SERVICE WORKERS
VOCATIONAL & EDUC COUNSELORS	278	PROFESSIONAL & TECHNICAL WORKERS
WAITERS & WAITRESSES	1965	SERVICE WORKERS
WASHERS, MACH &/OR STARCHERS	1183	OPERATIVES
WATCHMAKERS	807	CRAFTS & REPAIR WORKERS
WATER TREATMENT PLANT OPERATORS	846	CRAFTS & REPAIR WORKERS
WEIGHERS, PRODUCTION	2094	LABORERS & UNSKILLED WORKERS
WEIGHERS, RECORD KEEPING	483	CLERICAL WORKERS
WELFARE INVESTIGATORS	276	PROFESSIONAL & TECHNICAL WORKERS
WHOLESALERS	329	MANAGERS & OFFICERS
WIRERS, ELECTRONIC	1056	OPERATIVES
WOODWORKING MACHINE OPERATORS	1498	OPERATIVES
WORKSHEET CLERKS, INSURANCE	459	CLERICAL WORKERS
WRITERS & EDITORS	204	PROFESSIONAL & TECHNICAL WORKERS
WRITERS, ARTISTS, ENTERTAINERS	189	PROFESSIONAL & TECHNICAL WORKERS
X-RAY TECHNICIANS	115	PROFESSIONAL & TECHNICAL WORKERS
YARD ENGINEERS	751	CRAFTS & REPAIR WORKERS

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